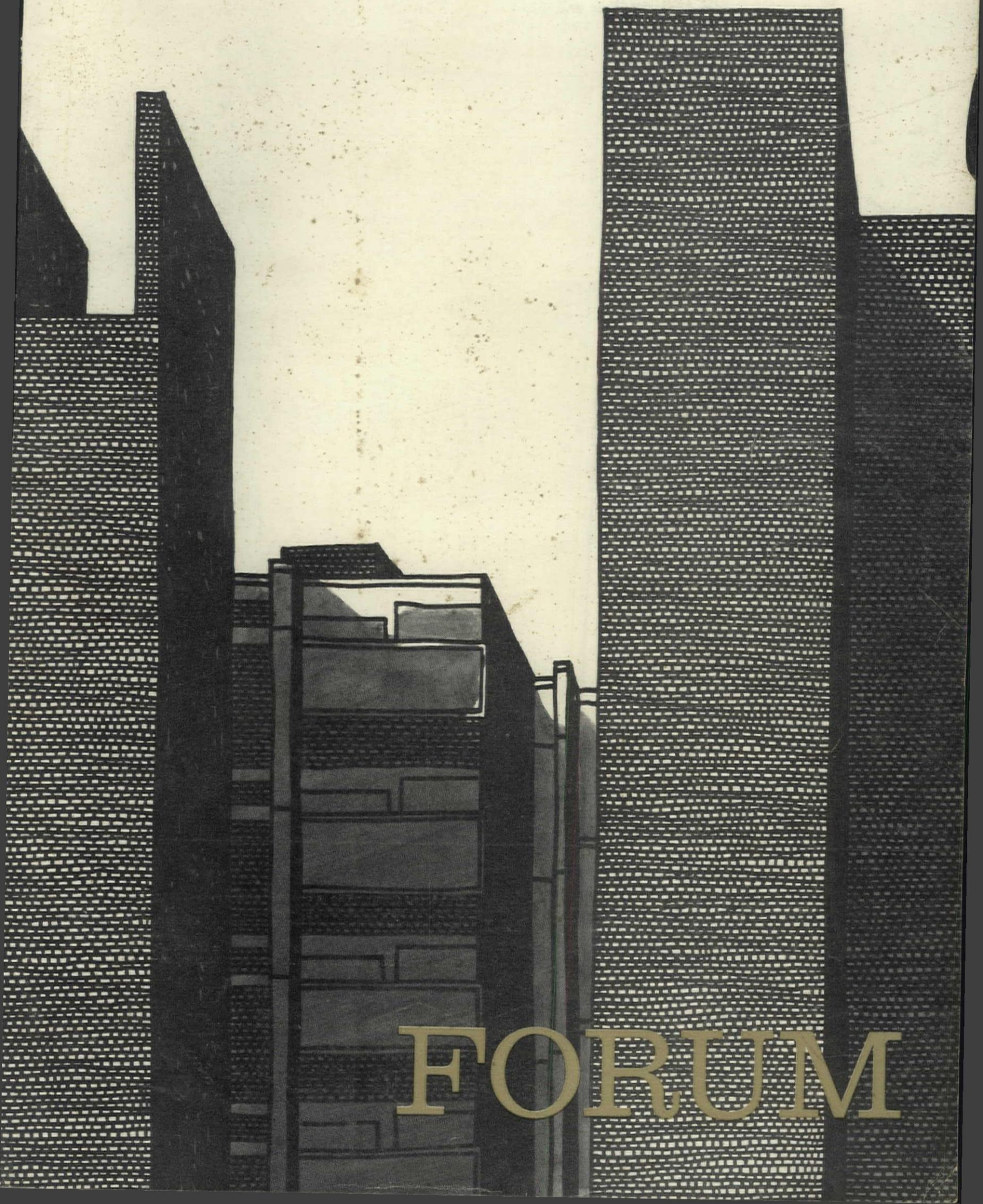
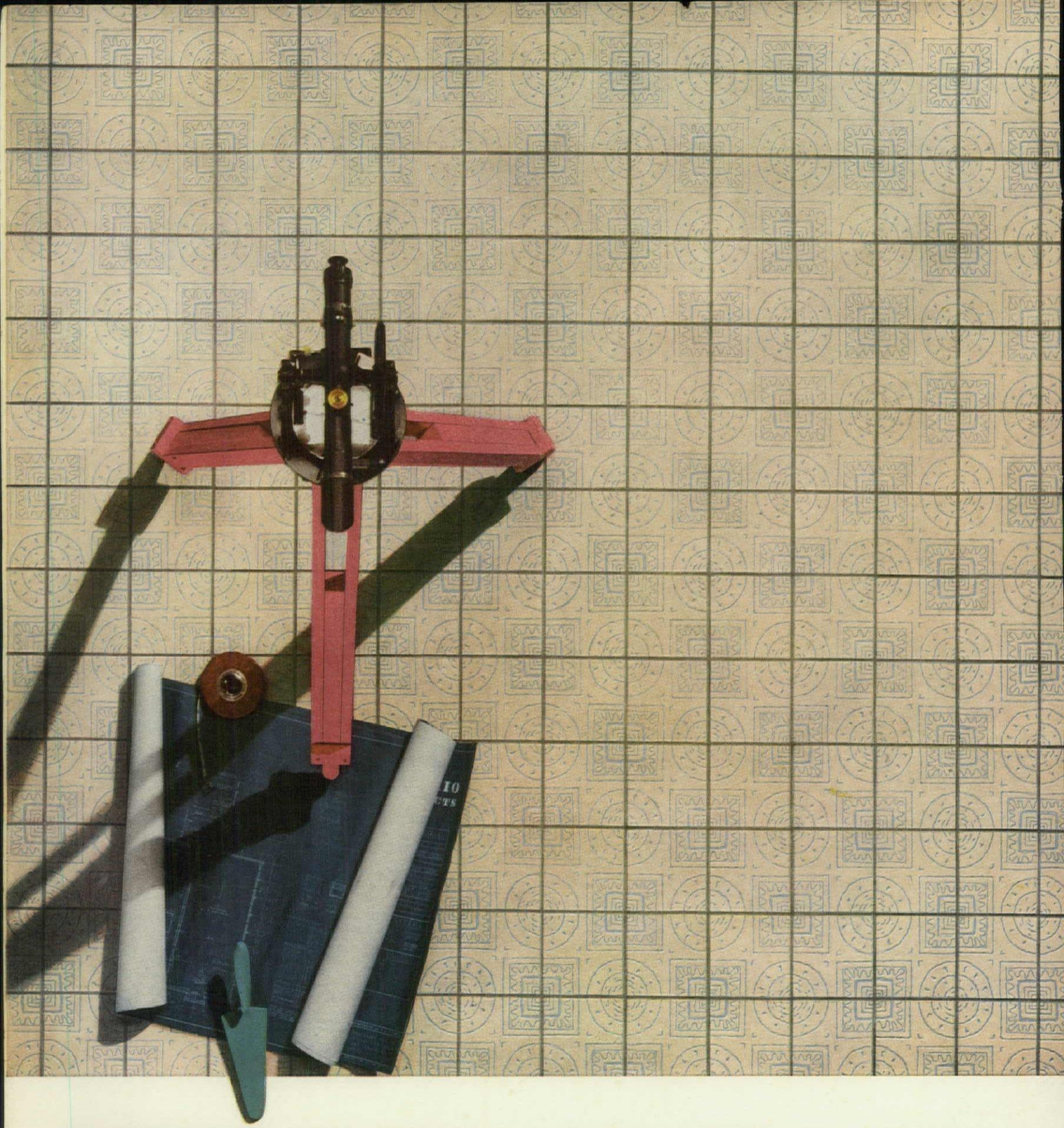
Architectural Forum the magazine of building July 1960



FORUM

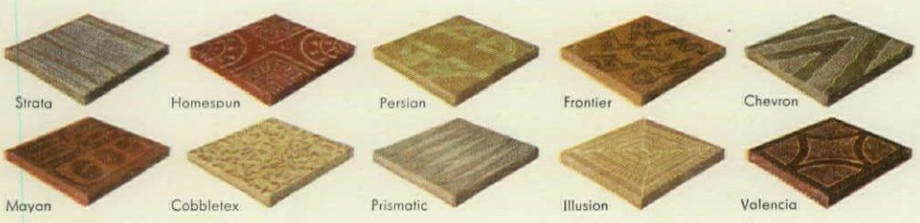


TEXTURE

THE FOURTH ARCHITECTURAL DIMENSION

Textured Quarry Tile is another new product from Summitville. An exclusive new process combines sparkling, easy-to-clean ceramic glazed designs with the inherent beauty of time-proven quarry tile.

For the full story of this new artistic dimension contact your local ceramic tile contractor or write Direct—



GLAZED QUARRY TILE
FLOOR BRICK
SUMMITVILLE ★ OHIO
Summitville Tiles, Inc.
12 VENEER
QUARRY TILE

MEMBER TILE COUNCIL OF AMERICA INC.

Architectural Forum July 1960

VOLUME 113 NUMBER 1

5 News

13 People

49 Projects

55 Products

79 Editorials

134 Ideas

139 Abroad

143 Books

147 Excerpts

199 Forum

Cover: Detail of Louis Kahn's medical research building on the University of Pennsylvania campus. Drawing by Ray Komai (story, page 82).

200 Editorial, subscription, and advertising data.

198 Advertising index.

Published monthly by TIME INC., Time & Life Building, Rockefeller Center, New York 20, N.Y. This issue is published in a national and western edition. Entered as second-class matter at New York, N.Y. and at additional mailing offices. Subscription price $6.50 a year.
1960 TIME INC. All rights reserved.

ART OF ARCHITECTURE

A building of rugged fundamentals 82

Kahn's laboratory for the cluttered University of Pennsylvania campus proclaims order and suitability in architecture.

Boylston's fifth incarnation 90

TAC saves Harvard half a million dollars by rebuilding century-old Boylston Hall.

The diversity of Eero Saarinen 94

Four new major projects, each based on the same "six pillars of architecture," demonstrate that wide variations can be consistent.

Harmony without imitation 104

A modern library by Paul Thiry is poised opposite the Washington State Capitol.

Architecture with a flourish 112

The cherubs and flourishes of Bavaria's Baroque palaces were whipped up by artists and architects collaborating in stylistic joy—a gallery.

Three prototypes in one school 120

A junior high school in Minnesota shows that variety need not mean high cost.

Noteworthy buildings 124

A Wrightian municipal garage in Ohio . . . an air-age bank at Idlewild . . . a floating pool house for the Coast Guard in California.

BUSINESS OF BUILDING

Architecture as promotion 88

Patrons of outstanding corporate design discuss some of its effects on the company, the customer, and the community.

CITIES

Where are the parked cars? 108

Ingenious design at Lafayette Park helps architecture win out over automobiles.

The new urbanites and the housing crisis 118

The newcomers are focusing attention on the inadequacies of the nation's public housing and renewal programs—the second of a two-part study.

TECHNOLOGY

Outdoor lighting: an expanding technology 128

Many new buildings have an evening glow, but the typical American city has yet to adopt the recent developments in outdoor illumination.



...has LUPTON Aluminum Windows

Modern facilities and modern architecture go hand in hand at Cheltenham High School. This beautiful structure houses such advanced features as an Olympic-size swimming pool, sound-proof music rooms and foreign language booths. It was built with 1,434 units of LUPTON Type "H" and 122 units of LUPTON Type "G" aluminum curtain wall, plus 87 LUPTON "Master" projected windows.

You can design creatively with LUPTON . . . vary sizes and locations of glazed and non-glazed areas as well as types of fenestration; material, color, and texture of opaque areas. Selection of mullion profiles and spandrel panels is another design advantage.

LUPTON construction is also simple and economical. Standardized tooling and fabrication operations, and the lightness of LUPTON's slim, durable aluminum parts make installation fast and easy. You save floor space . . . save maintenance . . . save foundation and framework costs.

Most advantageous of all, though, is LUPTON's dependability. As proven in hundreds of jobs—including one of the largest curtain-wall installations in the world—Two Broadway,



Cheltenham High School, Wyncote, Pa. Architects: Heacock & Platt, Philadelphia, Pa. Contractor: Baton Construction Co., Philadelphia, Pa.

and Curtain Walls

New York City—you can depend on LUPTON to meet your specifications, to deliver as scheduled. You can pinpoint responsibility, because LUPTON can do the whole job—even install!

See SWEET's (Sections 3 and 17) for the Michael Flynn Aluminum Curtain Wall and Window catalogs, and write for further specific information. Inquire about LUPTON Comfort-Conditioning*—the new curtain-wall system that cools, heats, and ventilates. A call to the nearest LUPTON representative (see the Yellow Pages under "Windows—Metal") will bring fast action without obligation. (*Trade Mark)

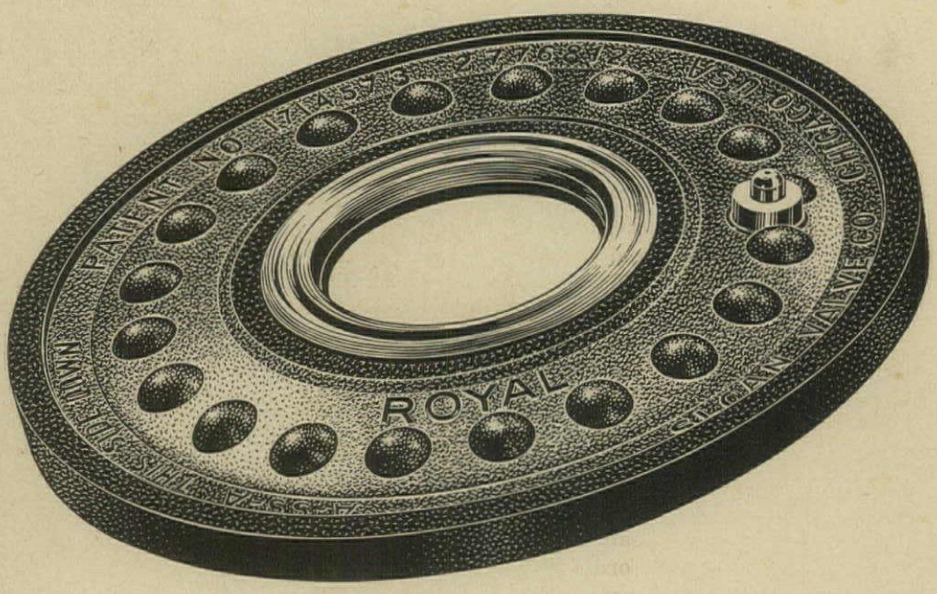
LUPTON®

METAL WINDOWS • CURTAIN WALLS

MICHAEL FLYNN MANUFACTURING CO.

MAIN OFFICE & PLANT: 700 E. GODFREY AVE., PHILADELPHIA 24, PA.
WEST COAST OFFICE AND PLANT: CITY OF INDUSTRY, CALIF.
SALES OFFICES: STOCKTON, CALIF.; CHICAGO, ILL.; NEW YORK, N. Y.; CINCINNATI, OHIO; CLEVELAND, OHIO; DALLAS, TEXAS.

You pay no more for unequalled SLOAN quality...

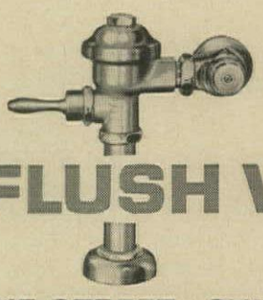


More *than just a diaphragm!*

• Research is constantly employed at Sloan finding ways to make our Flush Valves better. The Segment Diaphragm is one result. This diaphragm costs a lot more to make, but we know it is a superior product which adds to that bonus of quality you expect from Sloan.

• Called the A-56-A, it is made of natural rubber vulcanized with brass reinforcements. Rubber? Yes, we've found it best by far. Rubber is actually preserved by water—not deteriorated by it—and the flexing action prolongs its life.

• Not all the improvements we adopt from research make our headlines, but the Flush Valves we make today are better than ever. We know they've got to be to merit the continued confidence of those who specify, select and install them. And since you can have Sloan quality at no extra cost—why not make sure you get it.



SLOAN FLUSH VALVES

SLOAN VALVE COMPANY • 4300 WEST LAKE STREET • CHICAGO 24, ILLINOIS

ASPO and World Planning Congress speakers hit shortcomings of both cities and suburbs

There was no lack of variety in planning ideas and opinions propounded at the annual conference of the American Society of Planning Officials in Miami Beach late in May, or at the World Planning and Housing Congress held the following week in San Juan, Puerto Rico. For almost any viewpoint that a delegate might like to hear, he could locate a speaker who was expounding it; and the various facets of city and suburb were both praised and criticized.

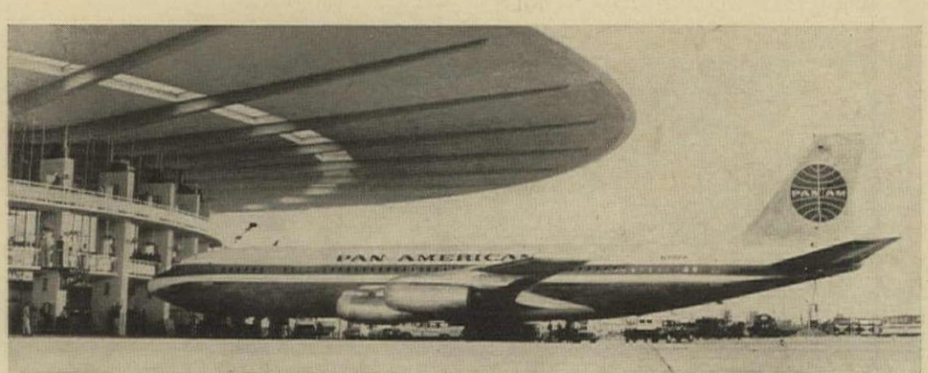
Opening the ASPO conference, keynoter Jefferson B. Fordham, dean of the University of Pennsylvania Law School, questioned "whether the 'save-the-center-city-area movement' is well conceived." The auto has made it feasible to shift many urban activities to outlying areas, he observed. But then, leaning in the other direction, Dean Fordham added that he still has a "notion that there are important cultural and intellectual values which can be realized to the highest extent only through the kind of human setting provided by the interchanges, the competitive demands, and the intensity which are likely to characterize living in a substantial urban area." Turning to suburban troubles, Dean Fordham criticized acreage zoning, or "Ivy League socialism," which excludes people of limited means from some communities just as effectively as racial discrimination impedes and restricts others in obtaining satisfactory housing.

As a guest and critic, Sir Frederic J. Osborn, planner and advocate of Great Britain's new towns and garden cities, urged "a definite limitation on the growth of cities already too large or large enough," as well as redevelopment that would decongest existing cities. As a result of TV, radio, the telephone, the auto, and standardized merchandise and merchandising, said Sir Frederic: "It looks as if any future local variety and originality of culture is going to come largely from amateur and self-made activities. The contrast between the lively minded metropolitan and the dull small towner has gone. The balance could swing the other way." Lamenting that relatively little is being done in any country to grapple with "the fundamentals of the urban or metropolitan problem," he added: "We still have influential engineers who love to build speedways, overpasses, and tunnels into a great city to funnel more business and people into it. We still have imaginative architects who love to rationalize and sophisticate congestion by higher slabs and towers. And we still have city councilors who are more interested in tax capacity than human comfort. Planners of my school of thought battle against the misuse of valuable expedients. Improved ways through cities are needed to cater for even a reducing population. High architectural effects would be grand if they were so spaced as not to perpetuate or increase excessive densities."

Many promotional releases to the contrary, few "retirement villages" or housing projects for the elderly can be commended for good planning, said Professor Carter C. Osterbind, of the University of Florida bureau of economic and business research. In too many cases, he told an ASPO session, developers are interested mainly in disposing of houses, and have little interest or genuine concern in providing appropriately planned housing and supplementary community facilities that will serve all the needs of the elderly. Great harm can occur, he warned, if a retirement village does not have adequate recreational facilities, nursing and medical services, hospitals and various other institutional facilities.

Housing and long-range planning

continued on page 6



PAN AMERICAN'S NEW TERMINAL IN NEW YORK PUTS UMBRELLA OVER PLANES

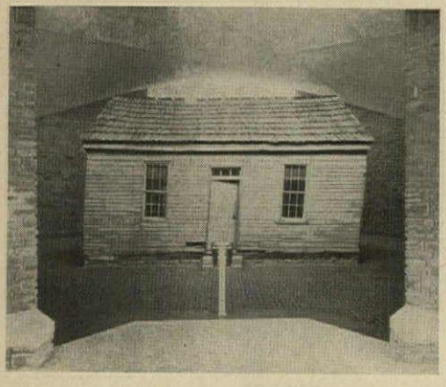
As many as six huge jet clippers can nestle simultaneously under the 4 acres of elliptical cantilevered umbrella roof at the Pan American World Airways terminal opened for service last month at New York International Airport (Idlewild). There are no long finger-like "sheepruns" leading to scattered, unsheltered loading aprons. Instead passengers board or leave planes at cabin level direct from the main terminal structure, across special bridges, and are sheltered from the weather by the umbrella roof. The $12 million structure, able to withstand winds over 150 m.p.h., was designed and engineered by Tippetts, Abbett, McCarthy & Stratton and Ives, Turano & Gardner, associates.

problems associated with the "population explosion" caused the sharpest conflict of opinion between two speakers at the ASPO conference and the subsequent World Planning Housing Conference held in San Juan. At ASPO, Richard L. Meier, of the University of Michigan, and visiting lecturer this year at the Harvard University department of city and regional planning, saw a need to curtail this country's rapid population growth. "We need a birth rate for the long run that is just about half what it is today," said Meier. "We must create some new environment that embodies a style of life attractive to many people but not conducive to large families. We know that suburbia is not the answer. Many women, although still a minority, have come to understand that the satisfactions afforded by suburban life are overrated. Very likely some new form of urbanity will need to be invented. My suspicion is that an exciting redevelopment of the central city, combined with some shocks to expectations, may induce a part of the younger generation to decide not to encumber themselves with children. Some will discover from the practitioners of human genetics that they carry bad genes, and ought not reproduce."

At the San Juan conference the following week, however, Ernest Weissmann, assistant director of the U.N. Bureau of Social Affairs, said the world can adequately house and clothe almost any number of inhabitants provided that the necessary planning has been done, and everyone can obtain the necessary education and a means of livelihood. Agricultural technology is simultaneously increasing the world's food supply and decreasing the number of farm jobs, Weissmann declared, but more jobs for more people can be created by greater industrialization in and around urban areas, where a vast number of people can be housed comfortably. The most important requirement, he said, is to obtain more order in the development of cities and "to stop the haphazard sprawl we see everywhere."

HADLEY K. IRWIN





TWAIN AND PARABOLOID MEET

As restless as Huck Finn, the small clapboard house in which Mark Twain was born in 1835 has been moved around in Florida, Mo. five times. Now it has come to rest about a quarter mile from its original site under a huge new hyperbolic paraboloid structure dedicated on June 5 (see photos). The architect of the house is unknown; the architect for the $250,000 sheltering shrine erected by the Missouri State Park Board was the office of Swanson, Terney & Brey, of Kansas City. Hannibal, Mo., where Twain passed his boyhood years and made his acquaintance with the Mississippi River, is about 28 miles northeast of landlocked Florida.

Supreme Court dismisses 4-acre zoning appeal

An appeal to the U.S. Supreme Court to invalidate a local zoning ordinance that established minimum 4-acre lots in some areas was dismissed by the Court on May 31 "for want of a substantial federal question." An objecting property owner had claimed that adoption of the 4-acre minimum in a portion of New Canaan, Conn., previously zoned for 2-acre minimum lots violated the 14th Amendment, which stipulates that no person shall be deprived of property without due process of law. The owner contended that the zoning commission had acted arbitrarily in adopting a new town-wide rezoning ordinance that changed minimum lot sizes from 2 to 4 acres for a 436-acre tract that he owned. He had intended to sell this property for a real estate development of 2-acre lots, he said, and he would suffer a loss, or be deprived of some of its value, if he had to sell it under 4-acre zoning.

New Canaan officials argued that the rezoning had contributed to the community's "health, safety, welfare, convenience, and prosperity." First Selectman Charles F. Kelley said the high court's decision "strengthens our belief that we have a right to run our own affairs" and will be able to escape the "tight congestion" that has developed in some other suburban areas in recent years. After the decision, zoning officials of nearby Greenwich, which has almost 10,000 acres zoned for minimum 4-acre lots, also breathed easier.

Skilled personnel shortage compounds urban troubles

One of the most serious problems associated with rapid urbanization of the U.S. has received little attention up to now. It is a shortage of skilled administrative and professional personnel for state and local governments. There has been a need not only for more administrative manpower (state and local non-school-system employees have increased more than 50 per cent since 1945), but also for personnel who are able to deal with increasingly complex matters.

Last month a new national organization to tackle this problem, the Municipal Manpower Commission, was established under a $500,000 grant from the Ford Foundation. President Eisenhower gave it a boost in a letter to James E. Webb, its first chairman and former Budget Bureau director. The commission's proposed program, the President wrote, "is vital at a time when the resources of local government are being strained by the explosive growth of our urban areas. State and local governments can and must continue to carry their important share of the responsibility for government services. But without adequately trained manpower these governments could easily be overwhelmed by the enormity of the problems confronting them. Should this happen, the pressure to have everything done by the federal government would become even greater than it is today."

Webb said the commission would launch an extensive research and education program to help improve the quality and performance of municipal administrators and assist them in dealing with mass population shifts to urban areas that are "producing a revolutionary change in local government . . . and present us with what may be our best opportunity since colonial and frontier days to develop a vigorous system of local self-government." The Harvard-M.I.T. Joint Center for Urban Studies has been engaged to make the first study for the commission; the commission will also work closely with the American Municipal Assn., ASPO, AIP, and other appropriate planning and civic organizations.

Other commission members include Ralph Lazarus, president of Federated Department Stores; William O. Baker, research vice president of Bell Telephone Laboratories, and Quigg Newton, University of Colorado president and former mayor of Denver. The director, headquartered in Washington, is Allen E. Pritchard Jr.

Saarinen feels buildings near St. Louis national arch should not exceed 200 feet—but city rejects idea

In the considered opinion of Architect Eero Saarinen, any structures in the area of the soaring 600-foot stainless steel arch that he designed for the Mississippi river-front Jefferson National Expansion Memorial Park in St. Louis should be limited, from the architecturally esthetic standpoint, to a height of about 200 feet.

Despite this view of the creator of the arch, which was chosen in a national competition as the most appropriate form for a national memorial at this site, St. Louis officials last month seemed determined to ignore it. They were intent on approving with all haste a redevelopment project on the edge of the park that would include three discordant 28-story, 275-foot-high apartment towers.

Latest developments in the effort to dissuade St. Louis officials from approving any adjacent project that would detract from the esthetic effect of the arch, a national monument that will be the possession of all Americans, included an interview with Saarinen in the St. Louis *Post-Dispatch*, in which he explained the reasons for his recommended one-to-three height standard: "Excessively high buildings next to the park will hurt the memorial. The limit of what is good for the memorial is about 200 feet. Such a height provides a very good relationship with the memorial, making the arch about three times higher than the buildings. That was the view I expressed at last summer's meeting [a meeting with federal and city officials that was never publicized in detail], and my opinion is unchanged. If you examine the St. Louis sky line, you find quite a few buildings which end at the 195- and 200-foot level. An adjoining development with buildings 200 feet high would unite all the structures very nicely into a quiet background."

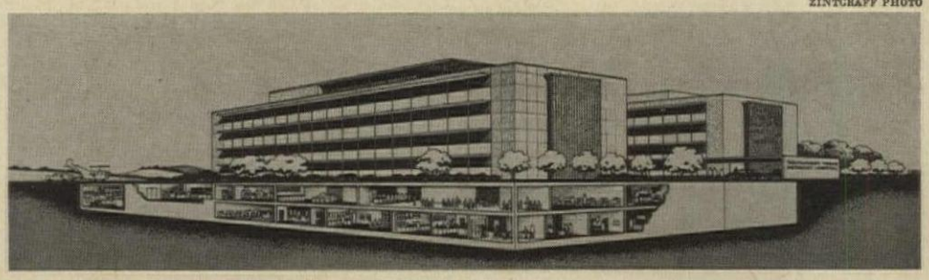
Asked if he considered Redeveloper Lewis Kitchen's proposed 275-foot towers a serious drawback (Kitchen originally had planned two 40-story, 450-foot towers), Saarinen stated: "Well, I think his revised plan is much better than the first. Towers rising to 450 feet would have been murderous to the arch." Saarinen emphasized that all of his remarks were concerned solely with esthetic considerations involved in the height of buildings in the vicinity of the arch, and he declined to express any preference or to discuss any other aspects of the project proposed by Kitchen and a rival project proposed by St. Louis Builder G. J. Nooney. The Nooney project would consist of a continuous S-shaped seven-story structure oriented north and south parallel to the arch.

In an open letter to the Board of Aldermen, Harris Armstrong, St. Louis A.I.A. chapter president-elect, recommended that the Board avoid making a hasty decision in the memorial-redevelopment situation, and urged that it name a jury of objective non-St. Louis architects and redevelopers to analyze both the Kitchen and Nooney proposals. "Such a jury could be assembled in a short time on a matter of such great national importance architecturally," said Armstrong. "It would give a very constructive report on the advantages of each scheme and might very easily, by laying down some ground rules for the project, give St. Louis a vastly superior solution to either of the present proposals."

Armstrong's plea, and a request by Nooney at a public hearing for a closer study of the competing proposals by architectural experts and land economists, were quickly rebuffed. A. J. Cervantes, president of the Board of Aldermen, said he saw "absolutely no merit" in deferring action, and Alderman A. Barney Mueller, chairman of its committee on housing also said he felt any further study was unnecessary. Strangely and deplorably silent were the voices of the powerful inner circle of St. Louis business and civic leaders, who in recent years have helped the city earn a reputation for fostering music and other cultural activities. In this instance the city was turning its back on architecture and completely rejecting its responsibility as a national trustee charged with developing the area around the national memorial arch and park in a complementary manner.

Editorials in both St. Louis newspapers quickly echoed the official "no delay" stand, and observers predicted that authorization for the Kitchen plan would be reported out of committee and given final approval by the full Board of Aldermen before the month ended and it began its summer recess.

ZINTGRAFF PHOTO



SAN ANTONIO HOSPITAL WITH UNDERGROUND NUCLEAR SURVIVAL COMPLEX



CO-OP OFFICE BUILDING IN MEXICO

The National Bank of Mexico is building this $3.7-million cooperative office building on a 1.1-acre plot in the heart of downtown Monterrey (photo). This project was started in March 1959, from plans by Architect Gustavo Struck, and is scheduled for completion next December. There are a total of 35 floors on the two towers of this building, and each "condominio" tenant must purchase a minimum of one half of a floor.

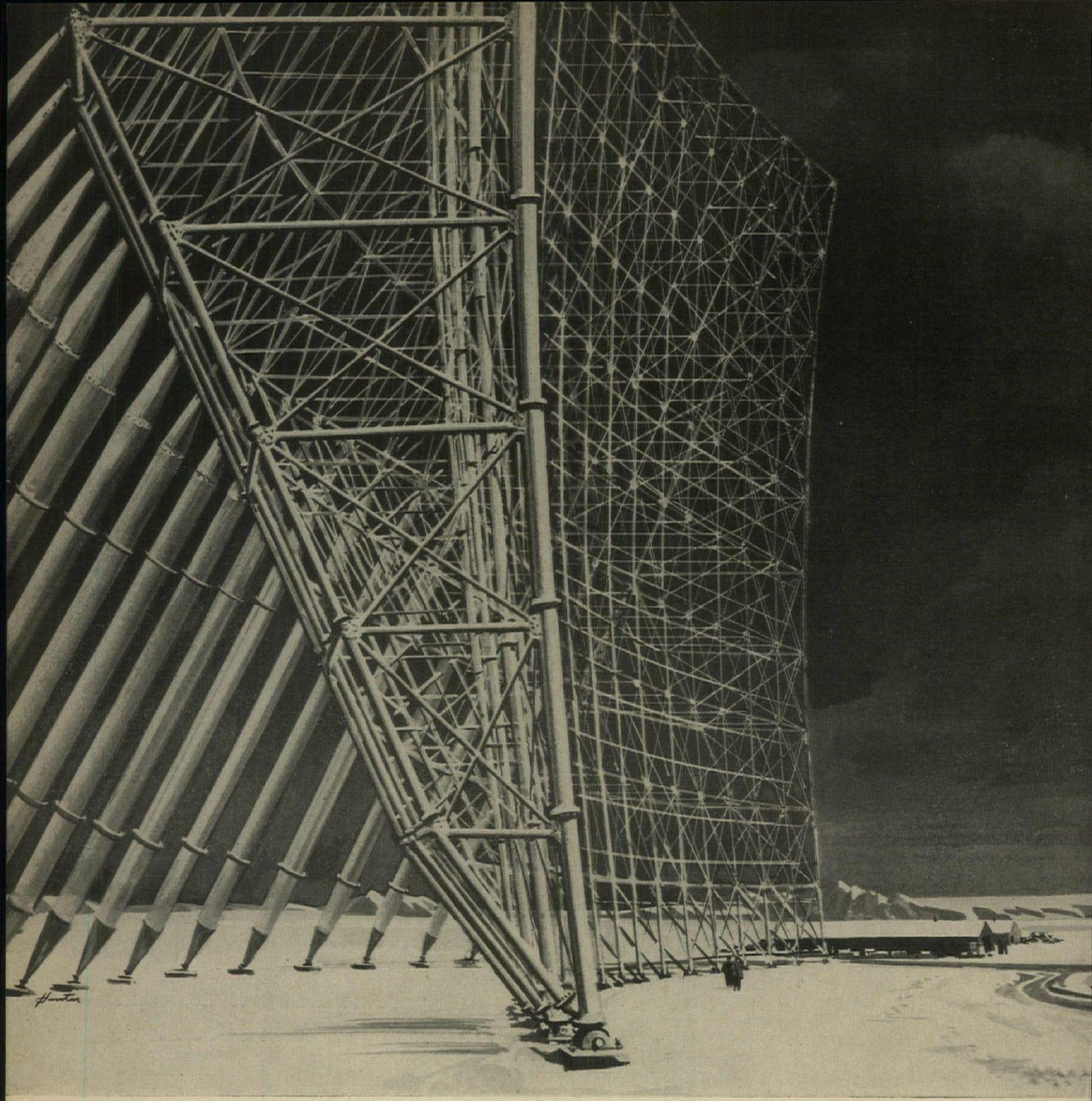
Cooperative commercial buildings are common in Latin America, but virtually nonexistent in the U.S., except for some medical buildings. Last month, however, Pease & Elliman, New York realtors, announced plans for converting a 12-story mid-Manhattan loft building to cooperative ownership. Entire floors will be the smallest units sold. The new co-op corporation will spend $350,000 to modernize and air condition the building.

Nuclear survival hospital started in San Antonio

To date there has been almost limitless discussion, but scarcely any action, on the construction of buildings to afford protection from atomic warfare blasts and fallout.

In San Antonio, however, Southwest Texas Methodist Hospital has started a five-story 175-bed building that will have an underground "nuclear survival complex" in which 1,200 people could be sheltered and all regular activities of the hospital could be conducted for two weeks without any access to the outside world (see photo). To finance this special construction, as a demonstration prototype, the federal Office of Civil and

continued on page 10



Somewhere North of Baffin Bay

The Arctic is almost as silent and lifeless as an ice-cube. But, deep inside it, these 400-foot long missile-detection antennas will guard the life of our country.

They're part of a Ballistic Missile Early Warning System (BMEWS). Officially, you'd call them surveillance radar antennas. Yet, they look like over-sized baseball mitts. That web-like framework can detect (or spot) a far-off missile darting through the shivering Arctic sky, and rifle its speed and direction to any of our military bases in seconds.

Up here, weather is a constant battle. Arctic storms slam into the 163-foot high antennas, and rake icy fingers back and forth over the mesh-faced structures. But they'll stand for years. The D. S. Kennedy Company, builders, made certain of that by weaving foot after foot of USS National Steel Pipe and Tubing into every antenna.

Steel tubular products are important structural



materials. It's specified by architects and engineers as structural members in schools, supermarkets, and many types of buildings. For instance, tubular steel is a perfect choice for window and panel support in curtain wall structures, because it has an excellent light weight to high strength ratio, is easy to join and reduces maintenance.

USS National Steel Tubular Products have been used in buildings and commercial structures for more than 90 years. If you'd like some additional facts, write for a copy of our Bulletin No. 2—Pipe For Mechanical and Structural Purposes. National Tube Division, United States Steel, 525 William Penn Place, Pittsburgh 30, Pa. But, for fast delivery of USS National Steel Tubular Products, *see your National Tube Distributor.*

USS and National are registered trademarks

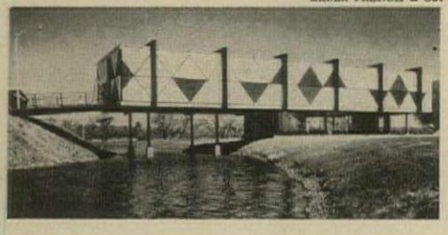
National Tube Division of United States Steel

Columbia-Geneva Steel Division, San Francisco, Pacific Coast Distributors
United States Steel Export Company, New York

Defense Mobilization has provided $300,000 toward the total costs of the hospital.

Reinforced concrete walls of the self-contained, self-sufficient two-story underground complex will be 26 inches thick, supplemented by a lead shield, and its ceiling will be 16 inches thick. It will have its own water supply (from a well beneath the complex), a power plant with an independent fuel-oil source, and an air-conditioning system that will decontaminate the air it circulates. An elevator to the ground floor will be completely independent of other services in the building. There will be a special ambulance exit and entrance ramp with fall-out protection traps and a built-in decontamination "wash down" shower. The grounds, about 8 miles from downtown San Antonio, will include a heliport. Architects are Phelps & Dewees & Simmons, of San Antonio, with Charles LeTourneau, of Chicago, as consultant. Completion of the project, the first unit of an eventual 750-bed institution, is scheduled for April 1962.

ARBER-FRENCH & CO.



BARNEY BURSTEIN



BOSTON ART GALLERY ON STILTS

Straddling a small moat on 12-foot stilts and overlooking the Charles River, this black-on-white building designed by Boston Architects Saltonstall & Morton houses the Institute of Contemporary Art. It was opened on May 21 as the first permanent home of the 25-year-old institute, and as the first permanent building of the Metropolitan Boston Arts Center, which later will include a new Boston Opera House. The main feature of the institute building is an open, flexible-partition exhibition gallery (see photo) 33 feet wide and with an 88-foot-long window wall facing the river. Eventually this building will be enlarged to more than three times its present size.

Two cities experience big public housing vacancies

Public housing projects in two widely separated cities were troubled with embarrassing vacancy rates last month:

▸ In St. Louis there was a 9 per cent vacancy in the 6,200 units in the city's seven completed projects, the same rate the Housing Authority reported last December 31. The rate increased sharply last year, booming from 3 to 9 per cent between March and December. Adverse publicity about crime in St. Louis projects has been a large factor in discouraging many families from applying for units. A grand jury report last December said the rate of reported rapes, robberies, and aggravated assaults in three of the St. Louis projects occupied almost exclusively by Negroes was about two and one-half times the rate for the city as a whole, but less than in adjacent Negro areas. The jury also noted that its report was based only on "reported" crimes, although "it is quite apparent that there is a considerable amount of crime in these projects which is never reported"—because of fear of reprisals. In one police district occupants of public housing projects represented 31.8 per cent of the population, but accounted for 47 per cent of the arrests for juvenile crime. In the city's other projects, the grand jury reported, it found no serious crime situations. Nevertheless, it urged the Authority to modify some design features of future projects to eliminate building factors that contribute to crimes against the person, such as soundproof vestibules, in which numerous robberies occurred.

According to James T. Drought, deputy director of the Authority, however, conditions are already improving and vacancies should decline to less than 5 per cent again by November 1. Major crimes in the city's three worst projects were 59 per cent fewer during the first three months of this year than a year earlier, largely as a result of the Authority's employment of additional private watchmen, some of them accompanied on their patrols by police dogs.

▸ In Waterbury, Conn., on May 1 the regional director for the federal Public Housing Administration took over the management of the 400-unit Berkeley Heights project from the Waterbury Housing Authority because a 35 per cent vacancy rate threatened the solvency of its operation. (For PHA's entire New England region, the vacancy rate on March 31 was only 1.1 per cent). This project, completed in 1954, was fully rented for several years, but fell into disrepute after interracial occupancy problems arose. After some tenants started to leave garbage in the halls and follow other poor housekeeping practices, it became difficult to find a steady supply of new tenants. As one observer summarized the situation: there apparently were not enough qualified low-income Negro families in the community to fill the project, and not enough low-income whites who cared to move into it after it had acquired a poor reputation. PHA hopes to rehabilitate and upgrade the project with various tenant improvement campaigns, as well as improve maintenance and management programs, and eventually to return it to the Housing Authority.

Architect-engineer dispute flares in Ohio again

A long-standing dispute between Ohio architects and engineers has erupted again. In Cincinnati last month the state's five-member Board of Examiners of Architects began hearings on charges that Architect Charles Burchard, "by fraud and deceit," permitted an engineering corporation to practice architecture illegally under the guise of a "fictitious, nonexistent" complementary architectural partnership.

On the second day of the hearing, before complete presentation of the state's case, however, the hearings were suspended indefinitely, when a serious illness in his family made it necessary for the special counsel pressing the charges to return to his home in Dayton. Pending the opportunity to present his formal defense, Burchard denied the charges and registered his dismay at the unforeseen delay in the proceedings, but expressed confidence in his ultimate vindication. Before the unanticipated postponement, Marcel Breuer was heard out of schedule as a character witness for Burchard, because he had already arrived in Cincinnati from New York for the purpose. After receiving M.I.T. and Harvard degrees in 1938 and 1940, Burchard was an assistant professor of architecture at Harvard with Breuer from 1945 to 1953, worked in Breuer's office, and for a time had a private practice of his own in Cambridge.

The charges against Burchard arose from his dual relationship with A. M. Kinney, Inc., an engineering firm, and A. M. Kinney Associates, an architectural and engineering office, and an Ohio law prohibiting practice of a profession by a corporation. The state's complaint charges that A. M. Kinney Associates is a "fictitious and nonexist-

ent partnership," and that Burchard's activities were primarily as an agent of the engineering firm, and thus permitted that corporation to practice architecture unlawfully.

Said A. M. Kinney Sr.: "This is essentially a conflict between the architectural and engineering profession in Ohio. This results from a serious ambiguity in the statutes governing the areas in which these sister professions may practice. It is deplorable that the architects have seen fit to endeavor to settle this conflict by a deliberate and vicious attack upon a man of Charles Burchard's character and reputation."

Briefs

The British Crown sold its former Hong Kong Parade Ground in an exciting 110-bid auction last month, and starting in September the site will be developed with a 25-story, $12-million, 1,040-room luxury hotel scheduled for completion in October 1961. The successful bidders, who immediately made a $250,000 deposit on their winning offer of $2,480,000, were Texas Hotel and Real Estate Operator Leo Corrigan Sr., and Dallas Oil and Real Estate Tycoon Toddie Lee Wynne. Bidding vigorously against them for this choice 40,000-square-foot downtown Hong Kong parcel, one of the most sought-after hotel sites in the world, were other realty interests and syndicates from the U. S., England, and Japan.

California voters overwhelmingly approved two state bond issues for construction totaling $700 million on June 7. By a margin of almost two and one-half to one they sanctioned a $300 million issue for school-building assistance to local communities, and by about two to one approved an additional $400 million to continue the state's veterans' loan program for the purchase of homes and farms.

The first U.S. Public Health Service research grant ever made to an A.I.A. chapter has been awarded to the New York chapter for a three-year, $100,000 study of hospital operating suite planning and design problems. Chapter member Robert Hyde Jacobs Jr. will direct the study, starting this summer, and after it is organized will engage an architectural assistant and a researcher, the latter possibly a surgical nurse. The project will include intensive investigation of routines followed in operating suites, a survey of work being done to combat hospital-acquired infections (insofar as this relates to the layout and equipment of operating suites), an analysis of existing and projected operating suite plans, and other studies to help architects develop new designs or unique solutions in this aspect of hospital architecture.

Median school cost set at $15.99 per square foot

When the Ford Foundation's Educational Facilities Laboratories completed a year-long study of school costs, including planning, financing, and building expenses, it found that the median construction cost of all the projects it analyzed was $15.99 per square foot of gross building area, after adjustments to allow both for regional cost differentials and year-to-year changes in building costs.

Emphasizing that building costs will always vary from structure to structure, depending on quality of construction and countless other factors, the researchers nevertheless computed a breakdown for the main elements of this median building cost. Many architects, builders, and school boards may wish to measure costs of their schools against these median costs, but they will realize, of course, that variations from the median will have no special significance unless allowances are made for all the factors that might cause any given project to vary from such a national median. The breakdown:

Excavation	$ .34
Footings and foundation	1.00
Structural frame	1.57
Structural floors	1.25
Roof deck	.50
Roofing and insulation	.45
Exterior walls	2.00
Interior partitions	2.45
Finished floors	.40
Ceilings	.28
Plumbing	1.15
Heating and ventilating	1.90
Electrical, lighting fixtures	1.45
Miscellaneous equipment (built-in)	.75
Contractor's job overhead	.50
Total	$15.99

Another organization has released data on the variation in school costs for virtually identical construction in a single community. The U.S. Chamber of Commerce, which opposes federal school construction aid (particularly the federal Davis-Bacon Act's "prevailing wage" requirements that would apply to projects receiving federal aid), reported the following differences in hourly wage rates in one community for a school that was built with local funds and another erected with federal-aid funds:

Job category	*Local*	*Federal*
Common labor	$ .75	$1.15
Carpenter	1.75	2.25
Concrete finisher	1.75	2.85
Concrete mixer and traveling machine operator	1.50	2.75

GEORGE VAN PHOTO



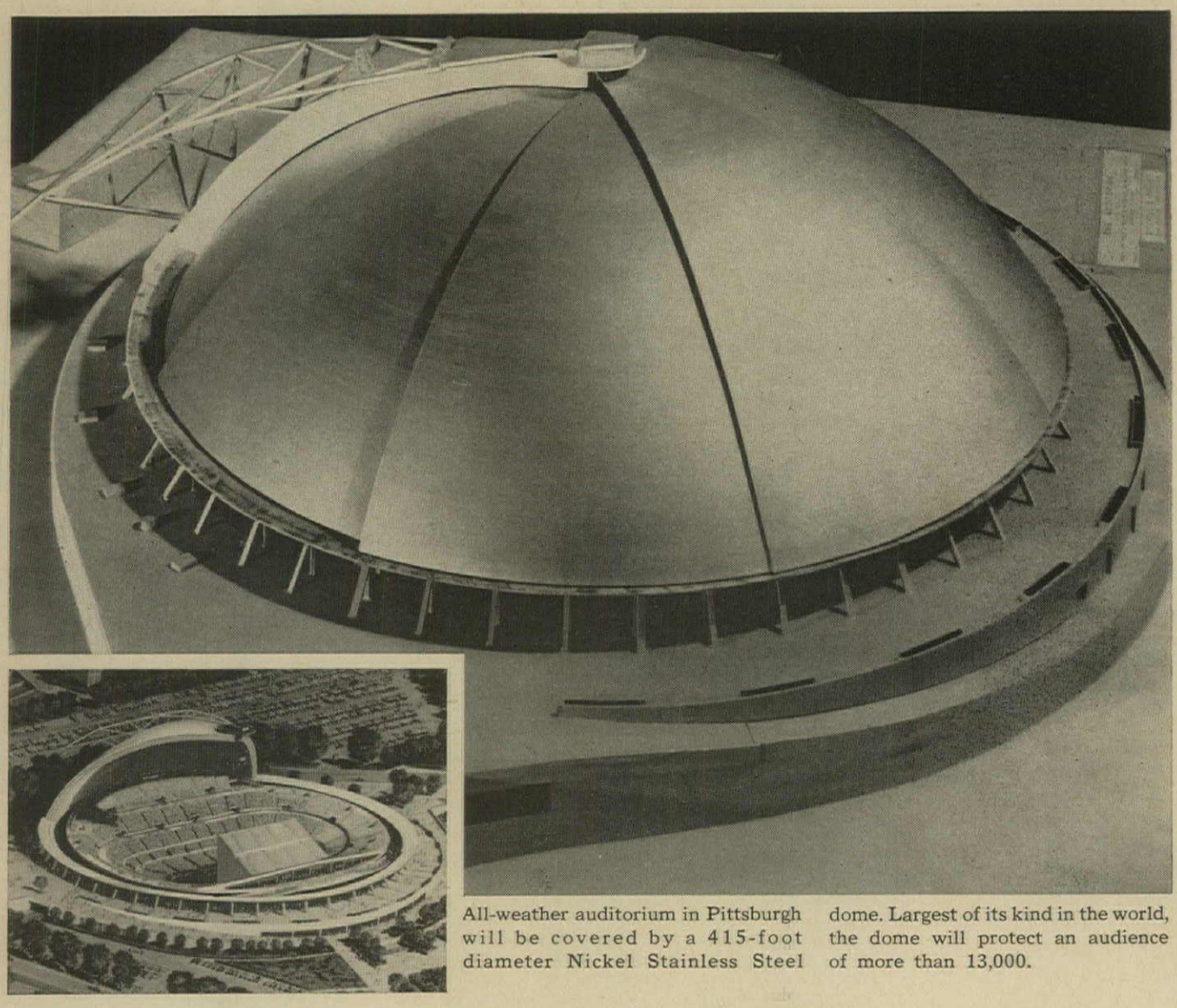
AIR-SUPPORTED SAVINGS BUILDING

Pending erection of a permanent office nearby, the City Federal Savings and Loan Association, of Elizabeth, N. J., opened an air-supported, air-conditioned structure last month to house one of its neighborhood branches—billed as the first use of such a structure by a public financial institution. A revolving door permits only a minimal amount of air to escape as depositors enter or leave, and wall sections of transparent vinyl let in natural light.

World design competition for Dublin library

Architects from all over the world have been invited to enter a competition to design a new library at Trinity College, Dublin, adjoining the present library structure erected in 1732. Although most buildings on the crowded 37-acre central-city Trinity campus are of Georgian and other traditional styles, no conditions have been attached to the external appearance or materials for the new building, which must contain "a net-floor area of 65,000 square feet, exclusive of circulation," and has been budgeted for a total of $1.4 million, including furnishings and fees.

Three prizes of $4,200, $2,800, and $2,100 will be awarded, and the first-prize winner will be appointed architect for the project at the regular fee scale of the Royal Institute of Architects of Ireland. Programs are available from the Competition Registrar, Trinity College, Dublin, for a deposit of $14, refundable to all who submit bona fide entries. Registration closes Aug. 31; designs must be submitted by March 21. END



All-weather auditorium in Pittsburgh will be covered by a 415-foot diameter Nickel Stainless Steel dome. Largest of its kind in the world, the dome will protect an audience of more than 13,000.

"Push-button umbrella roof" of stainless steel gives Pittsburgh a new all-weather auditorium

Watching a play or listening to music under the stars heightens the enjoyment. That is, until a passing shower comes along to wash out the fun. But now comes a new idea in auditoriums. In this one, an umbrella roof of Nickel Stainless Steel will close at the first drops of rain – and on with the show.

It's a simple concept, but a daring one. Eight huge sections nest together when the dome is open. Push a button, and six of these sections glide quietly together around an outside track.

They looked into all sorts of sheathing materials in designing the dome before choosing Type 302 Nickel Stainless Steel.

For stainless with Nickel in it is one of the most weatherproof metals there is. It is corrosion-resisting all the way through – in salt air as well as industrial atmospheres. What's more, it's virtually self-cleaning – rainfall alone keeps this metal clean.

No wonder you can expect to see Nickel Stainless Steel wherever long life and handsome appearance are called for! The high tensile strength and modulus of elasticity of Nickel Stainless permit safe, economical use of thinner gauges than other metals. Nickel Stainless is compatible with other architectural metals. And it resists the corrosive action of alkalies present in lime and mortar.

For fresh new ideas on how you can use Nickel Stainless . . . along with basic data on this durable and attractive architectural metal, write for ARCHITECTURAL USES OF THE STAINLESS STEELS.

THE INTERNATIONAL NICKEL COMPANY, INC.
67 Wall Street INCO New York 5, N.Y.

INCO NICKEL

NICKEL MAKES ALLOYS PERFORM BETTER LONGER

Reynolds-Berger team wins Eastwick project, based on Doxiadis plans; architects spur Miami renewal



DOXIADIS (R.), BUILDER SAMUEL BERGER (L.) AND COLE

Competing against some of the best-known names in U.S. building, the redevelopment plans of a Greek architect, engineer, and city planner won for his clients last month the contract for Philadelphia's vast, 2,506-acre Eastwick project. It is the nation's largest Title I project in area—a city within a city that ultimately will consist of more than 10,000 new housing units coordinated with commercial facilities and an 800-acre industrial park.

The architect-planner is **Constantinos A. Doxiadis**, 46, head of world-ranging Doxiadis Associates, of Athens, which now has branches in seven foreign lands (including a U.S. office in Washington, D.C.). When only 23 years old, Doxiadis headed the Greater Athens Area Town Planning Office, and from 1945 to 1950 he was Minister of Housing and Reconstruction and Coordinator of the Greek Recovery and Economic Development Program. During the past decade his office has been a planning consultant for nine nations, the World Bank, the United Nations, and the Washington (D.C.) Redevelopment Land Agency. Now he also is board chairman of the Athens Technological Institute.

Doxiadis' successful clients in Philadelphia are the Reynolds Metals Co., which has been moving into redevelopment on a national scale during the past year under the direction of **Albert M. Cole**, energetic Kansas lawyer and former HHFAdministrator (1953-59), and Reynolds' local associates for Eastwick, Philadelphia builders, and brothers, **Samuel A.** and **Henry A. Berger.** The Reynolds company believes there is a huge undeveloped aluminum market in construction, and that outstanding, well-designed redevelopment projects will make excellent proving grounds and showcases for its building wares in large quantities. Other cities where Reynolds has been seeking redevelopment projects include Cincinnati, Kansas City, Washington, and Baltimore. Usually the company expects to provide only planning and seed money for projects, which will be erected by local builders. It has allotted an initial $750,000 for Eastwick, but may invest $2 or $3 million more in equity funds if necessary to backstop its builder associates.

Originally seven different groups made offers for the Eastwick project or portions of it last September. These included Cerel-Perini Associates, Inc., and McCloskey Industries, Inc. The McCloskey firm, headed by Philadelphia Builder and Democratic National Committee Treasurer **Matthew H. McCloskey**, wanted to develop only the industrial tract and later withdrew its offer because of other commitments. Finally competition was narrowed to the Reynolds-Berger team and Philadelphia Builders Eastwick Corp., a joint venture of ten Philadelphia home builders. Redevelopment Authority Director **William L. Rafsky** then tried to induce these two groups to join forces to develop the project along the main lines of Doxiadis' plans. But this match-making effort failed, and the Authority's commissioners, chaired by **Michael von Moschzisker**, then voted 4 to 1 to award the project to Reynolds-Berger. In deciding in favor of redevelopment as planned by Doxiadis, the Authority disregarded the fact that the competing home builders' corporation had offered a higher land price (under a complicated sales procedure). Excluding building costs, gross costs for Eastwick's land and site improvements will be about $100 million, including an estimated $22 million write-down subsidy from HHFA, and a more than usual $33 million from the city. Total development costs will be about $330 million.

The lone dissenting Authority member was Mrs. **Goldie Hoffman.** She said she saw no justification for rejecting the higher land price offered by "local interests."

MAGNANIMOUS MIAMI ARCHITECTS

When Miami Architect **H. Samuel Kruse** was president of the A.I.A. Florida South Chapter in 1954, he set the wheels in motion for greater participation of architects in city planning and redevelopment affairs. He had a bill introduced in the legislature (although it was not enacted) that would have authorized country-wide master planning. He also created an A.I.A. chapter committee on community development, of which he has since become chairman. Last month, Miami had reason to be thankful for the fruits of Kruse's civic-mindedness and two recent A.I.A. chapter contributions toward the redesigning and redevelopment of the city, directed by Kruse and his fellow committee members, **Irvin Korach, Marion L. Manley, T. Trip Russell,** and **Robert Law Weed.**

"To let the public know that architects are interested in the development of their

continued on page 14



LOOK BEHIND THIS NAMEPLATE



.. you'll find a background of 231 years' experience

It's almost fifty years ago that our founder, Halsey W. Taylor, pioneered the development of drinking-water equipment with a revolutionary, health-safe mound-building projector. He is still active today. Add his many years of specialized knowledge to that of our key personnel in research, design and engineering . . . and you'll find a combined experience of 231 years!

That's why it pays to look for this nameplate. It distinguishes a fountain or cooler that's Taylor-made . . . a product of ripened experience designed with an eye to tomorrow.

The Halsey W. Taylor Co., Warren, O.



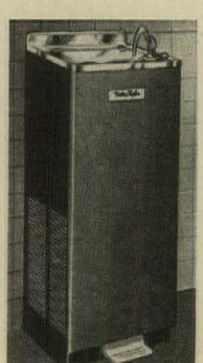
New Wall-Mount

A Halsey Taylor first. Mounts on wall, off the floor. Easily kept clean.



New "All-Climate" Outdoor Wall Fountain

Designed for outdoor use where temperatures drop below freezing. New all-weather features.



The Popular Wall-Tite

No exposed fittings. Fits tight against the wall. Space-saving!

460

ASK FOR LATEST CATALOG, SEE SWEET'S OR THE YELLOW PAGES

community," and to stimulate increased interest by other citizens, the committee volunteered to make a large model of downtown Miami as it might look in 1985, based on data and reports prepared by City Planner **Paul Watt**, head of the recently created Dade County–Miami Metro Planning Dept. In a three-week crash job in March, chapter members donated 674 man-hours to produce a 12 by 12 foot model that was unveiled at the annual Chamber of Commerce dinner and is now on display in Burdine's department store. In addition, in April and May the committee also conducted a chapter competition for sketch designs to show in a generalized way how one of the city's most important downtown blocks could be redeveloped most effectively and attractively. First to fourth winners of this were **Lester Pancoast, Kruse, Frank E. Watson**, and the office of **Earl Starnes** and **Joseph Rentscher**, in association with **Otto H. Oppenheimer**, respectively. Now all of these are collaborating in making a large display of the Pancoast solution, but in much more refined detail, which will be ready for public unveiling this month.

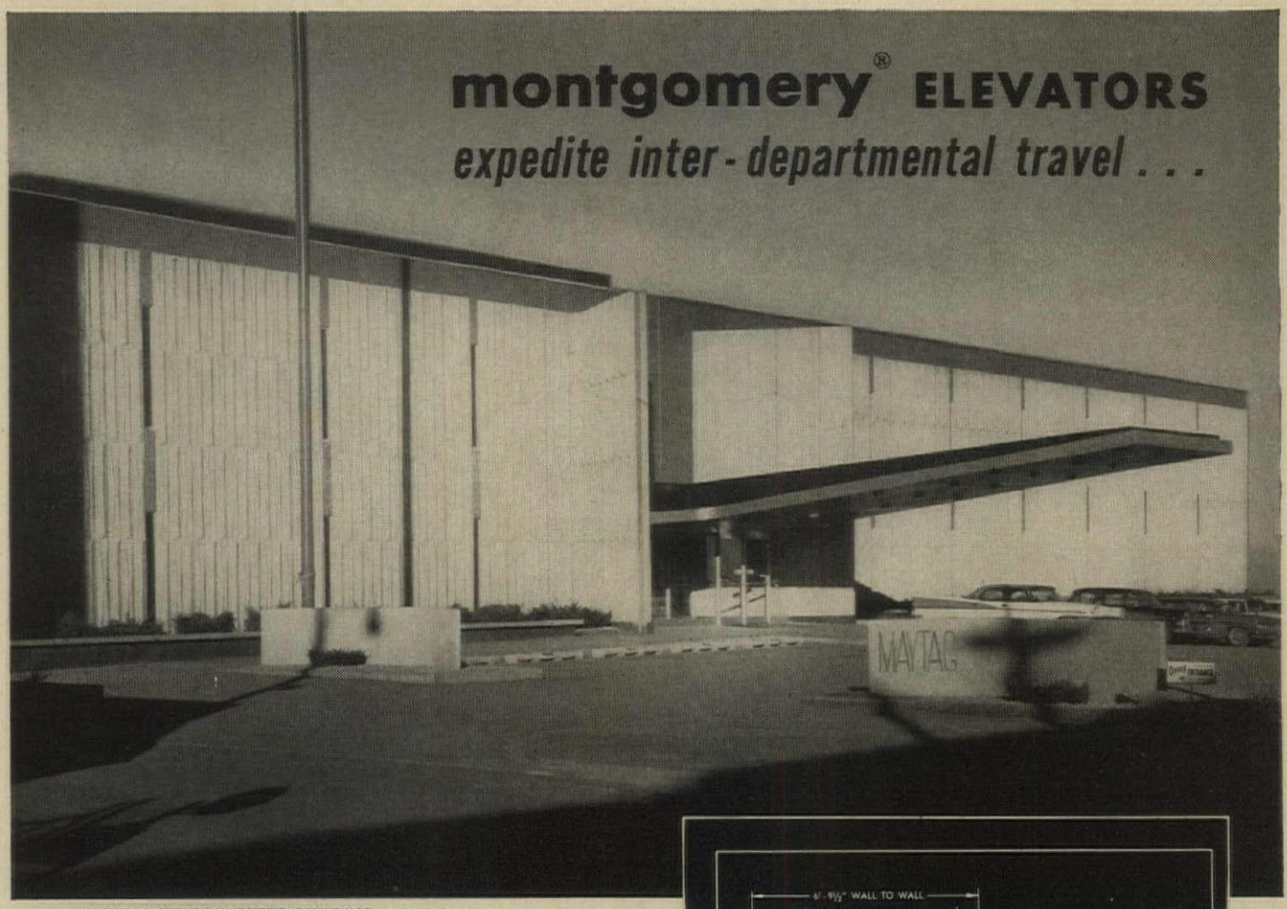
WORLD DESIGN CONFERENCE

More than 300 delegates from 27 foreign countries took part in the World Design Conference in Tokyo in May, including such cosmopolitan U.S. architects, planners, and designers as **Louis Kahn, Paul Rudolph, Minoru Yamasaki, Raphael Soriano, Christopher Tunnard**, and **Herbert Bayer.** The wide-ranging discussions were as broad as architecture and city planning, prefabrication and technology. Several panels were on topics as abstract as regionality and universality, and led a critic in *Yomiuri* to observe that "In defining these words, some of the delegates juggled with words almost like lawyers and lexicographers." On somewhat more specific points, the variations in speakers' comments on building design ran the gamut from Kahn's sophisticated disdain for artist-architects (he considers himself a creator, not an artist—see page 82 ff.) to Soriano's prophecy that the architecture of the future will be buildings designed by computing machines. Inspired by Kahn's address and works, a group of alumni of the Waseda University School of Architecture prevailed upon him to speak to this school's student body, which then held a party in his honor, and as a token of their esteem gave him a set of fine carpenter's chisels.

ARCHITECTURAL SCHOOL SHIFTS

Yielding to the lure of teaching again, **Walter A. Taylor** has resigned as director of the A.I.A. department of education and research, which he inaugurated in

continued on page 16



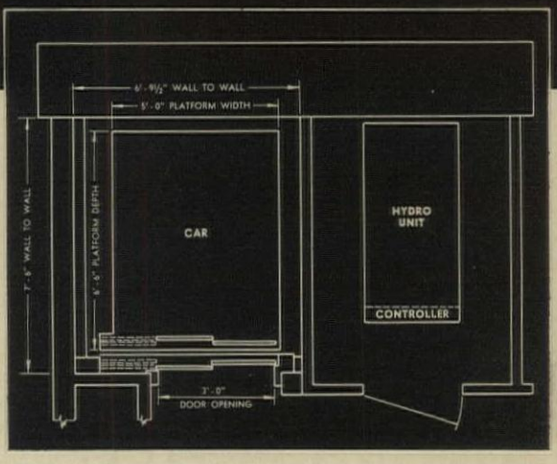
MAYTAG HEADQUARTERS BUILDING, NEWTON, IOWA
BROOKS-BORG, ARCHITECTS, DES MOINES, IOWA

. . . In MAYTAG

new Headquarters Building

To achieve maximum efficiency in vertical transportation and the utmost in space utilization, the architects for this modern Maytag office building, planned its transportation facilities at the hub of the work area.

Here dependable Montgomery Elevators of the latest operatorless design will be easily and quickly accessible to efficiently serve the needs of all surrounding office personnel.



For your next commission requiring vertical transportation, investigate the elevator equipment that is designed and built by craftsmen who are traditionally dedicated to producing the finest in elevator workmanship — Montgomery.

MONTGOMERY *Dependable* ELEVATORS

montgomery® ELEVATOR COMPANY, Moline, Illinois

offices in principal cities

MONTGOMERY ESCALATORS — STEPHENS-ADAMSON "SPEEDWALKS" AND "SPEEDRAMPS"

Exclusive Manufacturers of Passenger and Freight Elevators Since 1892

New! Kinnear POWER OPERATOR

FINEST ROLLING DOOR OPERATOR EVER DESIGNED

FEATURES:

New "Removable" Design — doesn't disturb auxiliary hand-chain operator.

Any Mounting! Vertical or horizontal — on door or wall bracket, or through-the-wall!

Easy Installation. Simple in-the-field control-wiring to a terminal strip.

Reserve Power for smooth action regardless of wind pressure, drifted snow, collected grime, or extra years of usage.

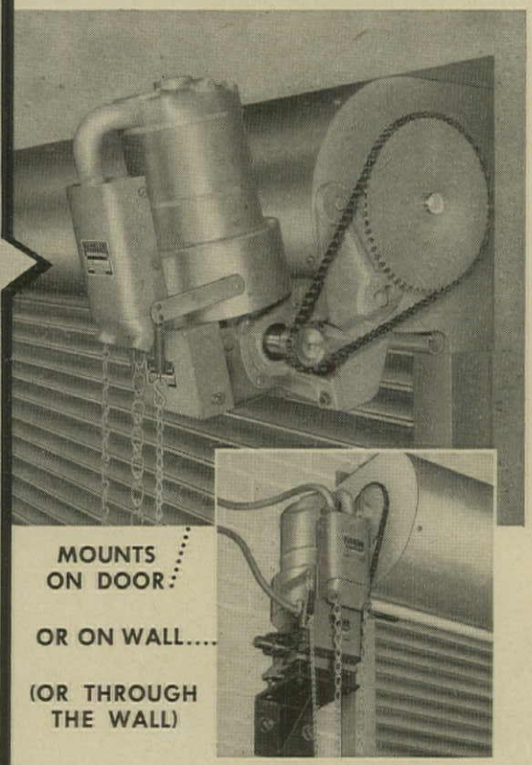
Thermal Protection Against Overload — motor cuts out before damage can occur.

New Worm Gearing for highest efficiency and longest service.

Centrifugal Clutch transmits motor action to door with no shock. Prevents motor stalls and overload damage.

Seven Sizes! Capacities for doors of any size!

Adds more efficiency than ever to KINNEAR ROLLING DOORS



MOUNTS ON DOOR... OR ON WALL.... (OR THROUGH THE WALL)

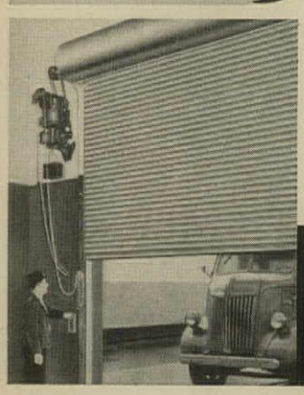
A new high in door efficiency is reached in Kinnear Rolling Doors equipped with the new Kinnear "Series Three" Power Operator. This is an *all-new* concept in motorization for rolling doors — designed with a single goal in mind — to *reduce to minimum* all chance for troubles from overload, torque shock, constant start-stop action—in a motor that assures easiest installation and maintenance, and permits any type of mounting.

The "Series Three" Kinnear Power Operator, like the Kinnear Rolling Door itself, is the finest achievement today's engineering skills can produce.

Write for new Power Operator Bulletin

The KINNEAR Mfg. Co.

FACTORIES: 1640-60 Fields Avenue, Columbus, Ohio
1742 Yosemite Avenue, San Francisco 24, Calif.
Offices and Agents in All Principal Cities



KINNEAR ROLLING DOORS
Saving Ways in Doorways

1946. Effective this month he will head a new school in the College of Fine Arts at Ohio University, Athens, Ohio, which will offer a Bachelor of Architecture degree upon completion of a five-year program. Before joining the A.I.A. staff, Taylor taught for 15 years at Columbia and Syracuse Universities. He also practiced architecture for 25 years.



TAYLOR



COURTESY HOUSE & HOME

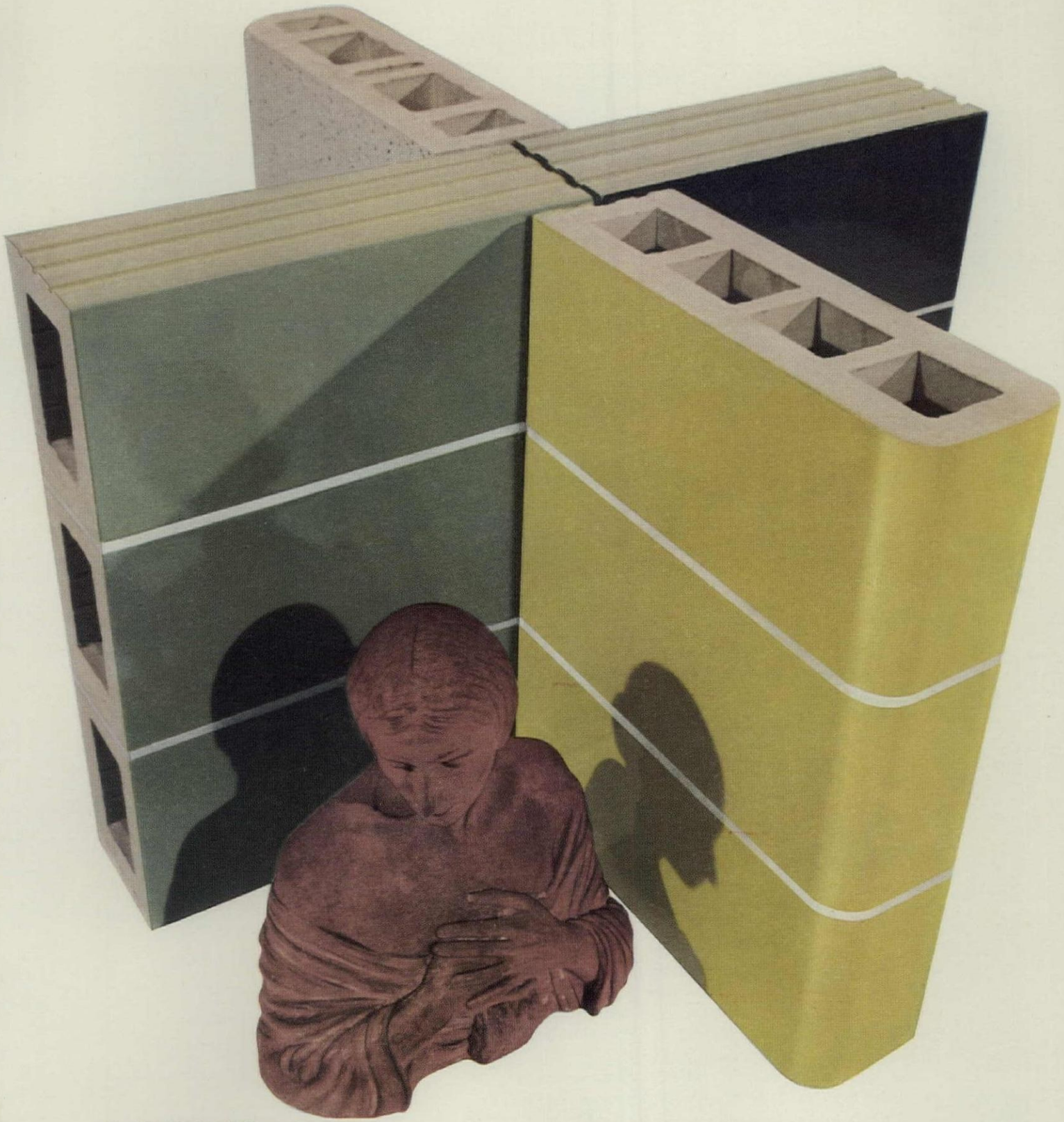
KELLY

At Cornell University, the new dean of the College of Architecture, effective this month, is **Burnham Kelly**, associate professor in the department of city planning at M.I.T. since 1945, former director of the Massachusetts State Association of Architects, and author of *The Prefabrication of Houses*. He succeeds **Thomas W. Mackesey**, who has resigned to devote full time to teaching.

In Houston, Tex., Rice University announced that Architect and Engineer **Felix Candela** has accepted an appointment as staff specialist in architecture. Since 1953, Candela has been professor of design in the school of architecture of the National University in Mexico City. Rice students who wish to specialize in structures will consult with him there.

SYRACUSE ALUMNI HONORED

During the commencement program at Syracuse University, the highest alumni honor, the George Arents Pioneer Medal was awarded "for excellence in architecture" to Rochester, N. Y., Architect **Donald Q. Faragher**, '30, and "for excellence in civil engineering" to **J. Burch McMorran**, '22, New York State Superintendent of Public Works. END



Bust by Malvina Hoffman, from
The Corcoran Gallery of Art,
Washington, D.C.

Beauty and Structure Become One

Through Facing Tile The plastic power of clay, expressed in the bust of Pavlova and the structural beauty of facing tile, reflects the kinship of sculpture and architecture. To the architect, facing tile offers integrity of design—structure, finish, flexibility, color, permanence—the material means to art.

FACING TILE INSTITUTE
1520 18th Street, N.W., Washington 6, D.C.

These companies, whose increased production assures prompt delivery, have contributed to this advertisement:

ARKETEX CERAMIC CORPORATION, Brazil, Ind. • **CHARLESTON CLAY PRODUCTS CO.**, Charleston 22, W. Va. • **THE CLAYCRAFT CO.**, Columbus 16, Ohio • **HANLEY COMPANY, INC.**, Pittsburgh, Pa. • **METROPOLITAN BRICK, INC.**, Canton 2, Ohio • **McNEES-KITTANNING CO.**, Kittanning, Pa. • **NATCO CORPORATION**, Pittsburgh 22, Pa. • **STARK CERAMICS, INC.**, Canton 1, Ohio • **WEST VIRGINIA BRICK CO.**, Charleston 24, W. Va.



Found—in the finest squares and circles—**steel pipe,** the versatile tubular conductor

A new dimension in consumer services is exemplified by Fashion Square—a "first of its kind" personal service center in Santa Ana, California, conceived and built by nationally famous Bullock's, Inc.

In keeping with the Square's functionalism, *steel pipe* was logically first choice for plumbing, heating, vent lines and fire protection. Because *steel pipe* was readily available —black for fire sprinklers, galvanized for water, vent and drainage lines—its use resulted in low-cost, durable service piping that was quickly installed.

Steel pipe is always first choice when economy *plus* strength *plus* ease of working *plus* choice of finishes *plus* ready availability are required. Whatever the application —water, oil or gas transmission; fire protection, heating, cooling and plumbing; vent and drainage lines; refrigeration, ice making, radiant heating or snow melting; electrical or communications conduit—*steel pipe* serves best.

COMMITTEE ON
STEEL PIPE RESEARCH
150 East Forty-Second Street, New York 17, N.Y.

STEEL PIPE IS FIRST CHOICE

- Low cost with durability
- Strength unexcelled for safety
- Formable—bends readily
- Weldable—easily, strongly
- Threads smoothly, cleanly
- Sound joints, welded or coupled
- Grades, finishes for all purposes
- Available everywhere from stock

INSIST ON PIPE MADE IN U.S.A.

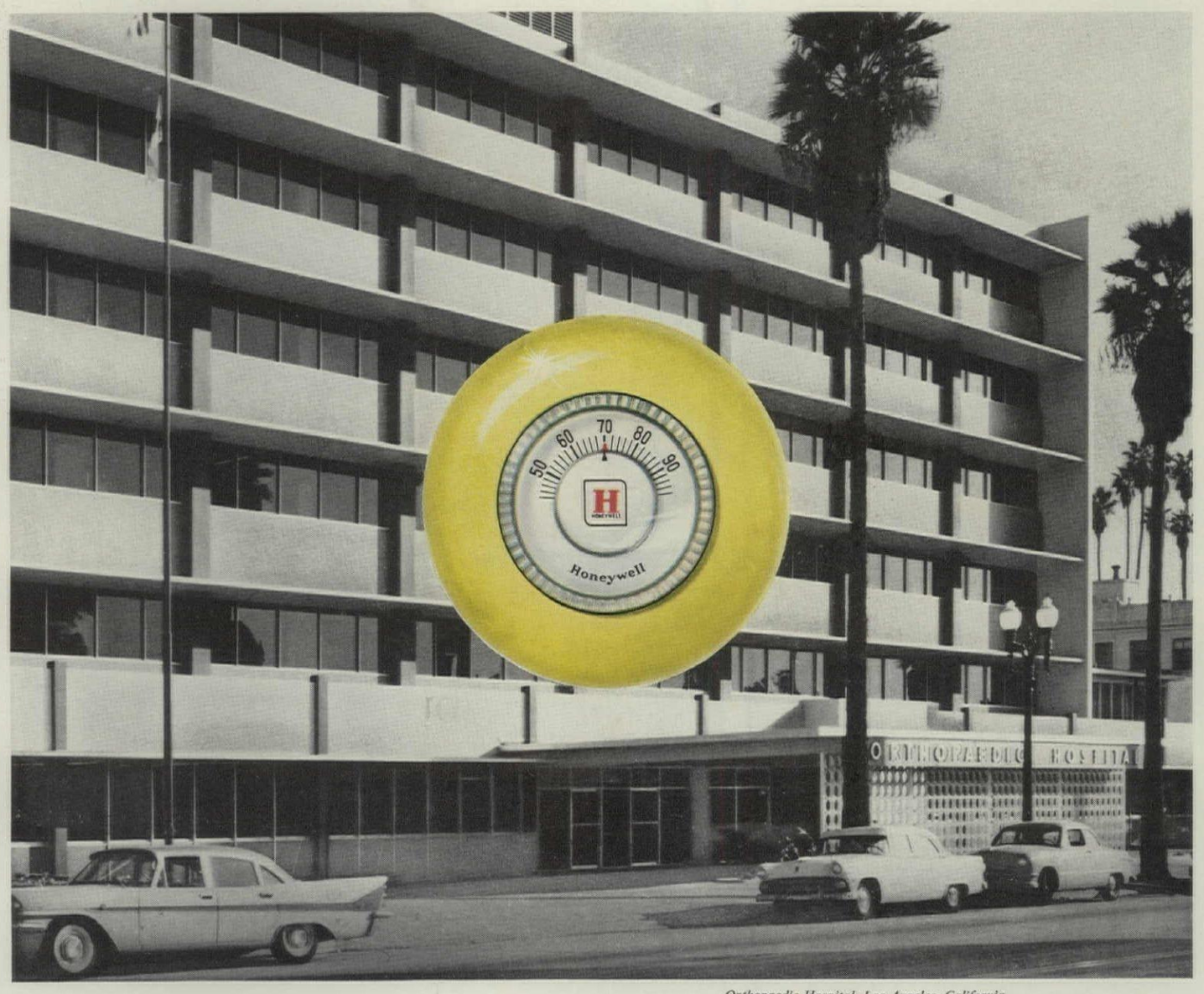
Yours for the asking . . .

Write for your copy of the 48-page booklet "Radiant Panel Heating with Steel Pipe." It details the design, installation and operation of radiant heating systems.

CONTROL:

first step to

comfort



Orthopaedic Hospital, Los Angeles, California.
Architects and Engineers: Albert C. Martin & Associates, AIA, Los Angeles.

Only precise control of indoor comfort makes space truly usable. That's why it's so important to integrate good design and comfort control right from the start in any type of building. You can depend on Honeywell to help your engineer specify the best possible temperature control system for each of your clients' particular needs. You'll find that Honeywell's seventy-five years of leadership in temperature control will go far toward assuring your clients' complete satisfaction. For further details, call your nearest Honeywell office, or write Minneapolis-Honeywell, Minneapolis 8, Minnesota.

Honeywell

First in Control

H HONEYWELL SINCE 1885

See us in Sweet's 1960 Architectural File, Section 30 D/Mi

75th YEAR PIONEERING THE FUTURE

Since **HOPE'S** *1818*

CHURCH WINDOWS

STEEL WINDOWS HAVE THE STRENGTH AND RIGIDITY THAT NO OTHER WINDOW CAN MATCH



ST. PETER'S LUTHERAN CHURCH, EDINA, MINNESOTA

Ralph Rapson, A. I. A., Architect — *J. L. Crouse, Contractor*

In this church the auditorium is octagonal, the congregation seated on all sides of the altar. Above, the eight large gable windows give the feeling of space within and a gem-like quality to the exterior.

The engineering of the gable windows was complicated by the decision to have them incline inward from the vertical to obtain exactly the effect desired. The windows are custom built to most carefully prepared plans and specifications. Engineers at Hope's worked closely with the architect in the structural design.

The building also has large wall areas using Hope's custom rolled-steel sub-frames with Hope's Heavy Intermediate Projected Windows, glass and insulated panels. In still other locations Hope's pressed-steel sub-frames hold glass and doors.

Such a building benefits especially from the availability, in Hope's Engineering Department, of a large, trained staff, thoroughly experienced because it is a permanent organization, continuously occupied with the problems of fenestration of important buildings in all architectural styles, traditional and modern. The lasting quality and the satisfaction given by Hope's Windows come also from the skill of experienced craftsmen working with the best materials.

Write for Bulletin No. 152

HOPE'S WINDOWS, INC., *Jamestown, N. Y.*

HOPE'S WINDOWS ARE MADE IN AMERICA BY AMERICAN WORKMEN

New floor tile discovery from Romany·Spartan...

CERAMAFLEX*

rubber-cushioned ceramic mosaics in 9″ squares





Plate No. 1099

It's flexible and resilient!

Ceramaflex, because of its unusual flexibility, adjusts automatically to minor imperfections in sub-floor. But the rubber grid which makes this possible serves other functions, too. Ceramaflex floors are quiet because they are mounted in *resilient* rubber which acts as a cushion between the ceramic mosaic tiles and the sub-floor, and they are easy on the feet. Heavy furniture and appliances will not dent the surface.

Tiles are mounted in rubber pockets!

Each of the 64 ceramic mosaics that make up one 9″ x 9″ unit is permanently bonded in a pre-formed rubber grid. Because the edges of Ceramaflex 9″ x 9″ units are beveled, they lay up so tightly that joints are unnoticeable in the finished job.

So easily installed!

Because Ceramaflex is pre-grouted, installation is simple and fast. It's ready for use the instant it's laid. Ceramaflex is installed with a special adhesive as quickly and easily as conventional resilient floor tile. It can be installed satisfactorily on or below grade as well as above grade, over proper sub-flooring. Simple, rapid installation results in application cost substantially lower than that of conventional ceramic mosaic floors.

To You, Mr. Architect, CERAMAFLEX opens a broad new field for floor application of ceramic mosaics. This labor-saving, high quality product embodies all the most-wanted qualities of ceramic tile, plus *two important additions:* floors that are both *quiet* and *easy on the feet.* This makes Ceramaflex a superior flooring material for many areas in schools, institutions, retail, commercial and industrial establishments. And in residential work resilient Ceramaflex can be used advantageously in kitchen and family rooms as well as the more frequently tiled areas.

Ceramaflex is as *new as tomorrow,* so if you don't yet have samples and information... call your nearby Romany•Spartan sales representative or distributor, or write for Bulletin RS-228. United States Ceramic Tile Co., Dept. AF-14, Canton 2, Ohio.

**Trade Mark. Ceramaflex is the exclusive product of United States Ceramic Tile Company.*

ROMANY SPARTAN

CERAMIC TILE

PRODUCT DATA

CONSTRUCTION. Made of Romany•Spartan unglazed 1″x 1″ceramic tiles which are securely bonded in a flexible rubber grid.

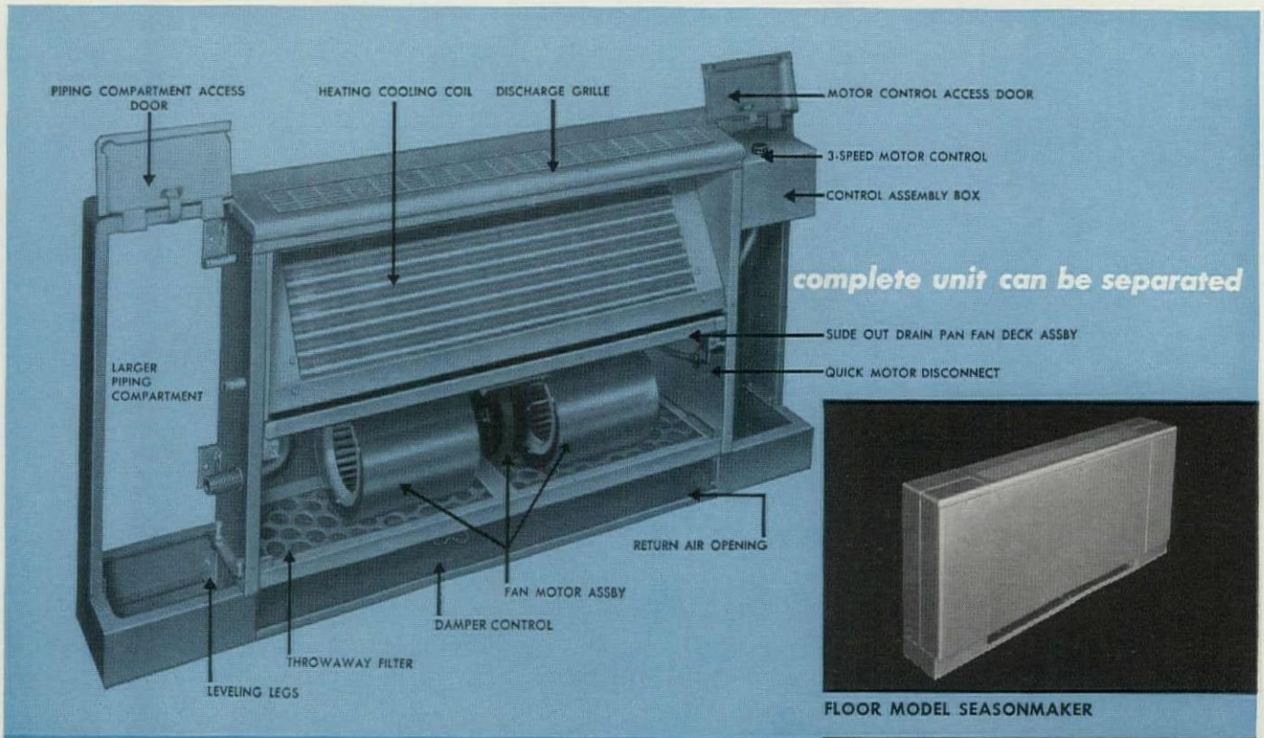
DIMENSIONS. Ceramaflex flooring units are 9″ x 9″ squares...and 7/32″ thick. Each Ceramaflex floor unit is composed of 64 ceramic mosaic tiles approximately 1″ x 1″.

FINISH. The surface of Ceramaflex is sealed at the plant with a protective coating to prevent wearing-in of dirt and grime.

COLORS. Random medley patterns in twelve handsome color combinations.

MEMBER

UNITED STATES CERAMIC TILE COMPANY



FLOOR MODEL SEASONMAKER

So Versatile, So Dependable ...and So Easy to Work With

McQuay thin-line design SEASONMAKER

McQuay thin-line design individual room Seasonmakers are popular, not only because of their convenient size, their high efficiency and their inherent quality, but because they are so extremely versatile and dependable. Every part is easily and quickly accessible. They are easy to install and easy to work with. For example, filters are easily changeable; the slide-out fan deck is quickly removable; the hand of coil is easily reversible in the field.

All McQuay Seasonmakers utilize central station heating and cooling and are available with capacities of 220, 330, 440, 520 and 640 cfm. They furnish individual room comfort at any desired temperature level—heated, filtered air in winter and cooled, dehumidified and filtered air in summer. Seasonmakers are ideal for multi-room buildings such as hotels, apartments, motels, schools, hospitals, offices and residences.

If you haven't already done so, investigate McQuay individual room Seasonmakers. For complete information call the McQuay representative in or near your city, or write McQuay, Inc., 1609 Broadway St. N. E., Minneapolis 13, Minnesota.

ONLY 8 1/2" THIN
25 INCHES HIGH

4 Models In 5 Sizes

McQuay INC.

AIR CONDITIONING • HEATING • REFRIGERATION

MAKE THE SEASONS COME TO YOU



Architect: Carneal & Johnston; Associate—Edward F. Sinnott & Son. Building: Atlantic Life Insurance Co., Richmond, Virginia. Fixture Mfr.: Day-Brite Lighting, Incorporated

Inside or out, it has to be glass to last

This luminous ceiling extends from the lobby clear out to the street.

It has to be glass, if you want it to take weathering without warping or sagging or discoloring or wearing.

It has to be glass, indoors or out, if you want a material that is non-static, doesn't attract dust. A material that can be kept clean for the price of a damp cloth and an ounce of elbow grease.

It has to be glass, if you want really delicate control of illumination. This installation, for example, uses an ingenious Corning glass called Crystopal.

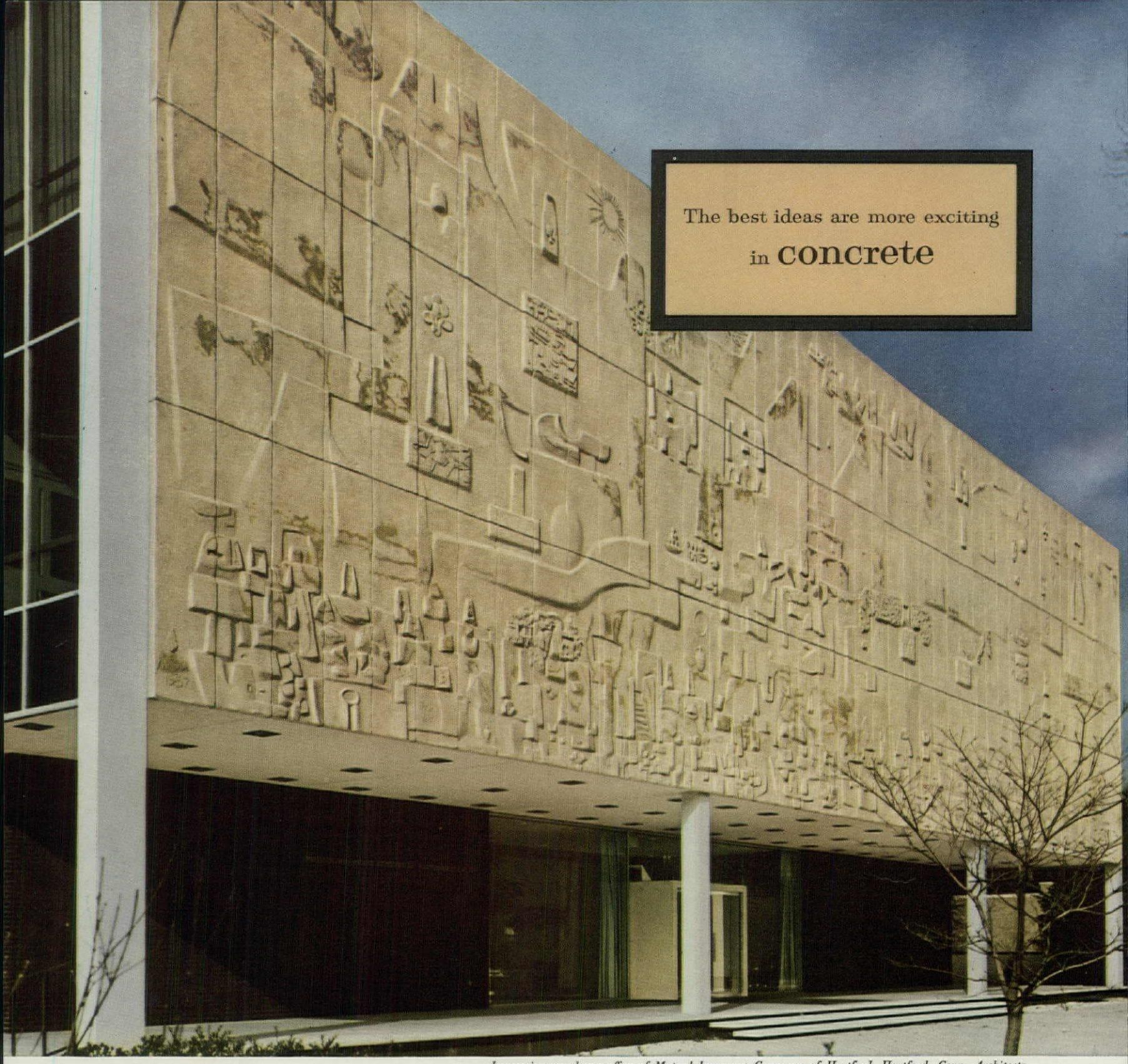
The glass is a unique mix of clear crystal and translucent opal. The crystal prisms control brightness and bend light down to achieve high-level illumination. The opals reduce reflected glare and obscure the light source.

Inside or out, it has to be glass to last.

You can get a wealth of data on Crystopal glass and other lighting glasses by requesting a copy of *Commercial Lighting Application Guide*. Write to Lighting Sales Department, 64 Crystal Street, Corning, N.Y.

CORNING GLASS WORKS

CORNING MEANS RESEARCH IN GLASS



Impressive new home office of Mutual Insurance Company of Hartford, Hartford, Conn. Architects. Sherwood, Mills & Smith, Stamford, Conn. Structural Engineers: Werner-Jensen & Korst, Stamford, Conn:

Precast concrete and sand molds make "sculptured walls" come easy!

To achieve the striking design effect pictured here, the architects chose precast concrete. With it they turned the fronting wall of the building into an heroic bas-relief.

Famed sculptor Costantino Nivola "carved" the designs in damp sand. Cast directly from these sand molds in 132 panels, the concrete captured all the detail and rich texture of the original sculpture. Color variations on buff-toned background increase the feeling of depth.

This is just one example of how today's architects are using concrete to create outstanding decorative effects in buildings of every purpose, every size and type.

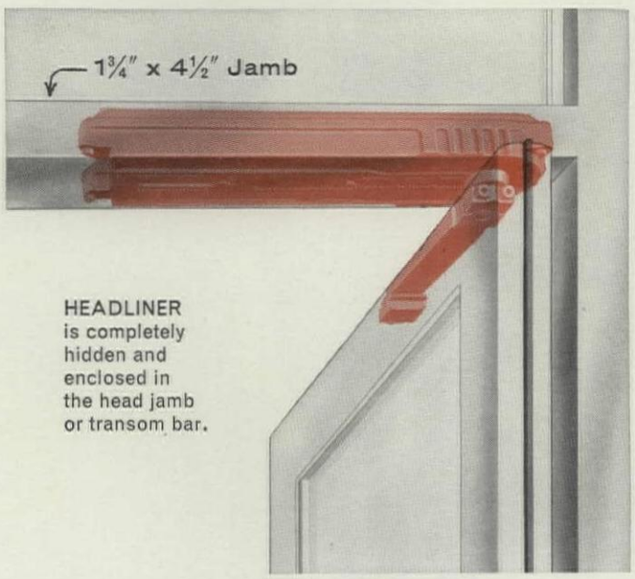
PORTLAND CEMENT ASSOCIATION *a national organization to improve and extend the uses of concrete*

the Headliner® by DOR-O-MATIC...

positive overhead door control that is hidden from view

Beauty. It's built in . . . and performs out of sight, even when doors move to the full-open position. No visible hinges, closers, arms, or holders interrupt the beauty and clean lines of doors and frames. Here is highly efficient door control concealed in any 1¾" x 4½" head jamb or transom bar. HEADLINER sets the scene for good doorway design . . . entrance, vestibule, interior . . . in any building and at lower cost than with many other types of door closers.

Performance. The advanced new HEADLINER Overhead Door Control operates smoothly and quietly. Cushioned positive back stop and optional hold-open may be obtained at either 90° or 105°. HEADLINER also features positive centering and no accidental hold-open. The HEADLINER provides positive control . . . throughout opening and closing cycles for double or single acting doors. Simple, accessible two-speed closing and spring force adjustments are provided.



HEADLINER is completely hidden and enclosed in the head jamb or transom bar.

Installation. The HEADLINER is designed for packaged unit construction so the complete doorway—frame with pre-installed HEADLINER and door—is quickly installed. Gone is the usual time-consuming preparation. One trip completes the installation . . . the door is securely set in the frame in seconds with the HEADLINER Fast-Set Arm and Pivot.

For the full story, communicate with your door manufacturer or hardware consultant . . . or write Dor-O-Matic today.



DOR-O-MATIC *Division of* REPUBLIC INDUSTRIES, INC.
7356 West Wilson Avenue • Chicago 31, Illinois
CANADA: Dor-O-Matic of Canada, Ltd., 550 Hopewell Ave., Toronto 10, Ontario



GENERATION AFTER GENERATION of architects have seen Koppers coal tar pitch roofs last 25, 30, even 40 years. The reasons for this long life are the complete waterproofness of coal tar and its unique ability to heal small cracks. Coal tar pitch also resists . . . but your Koppers roofing specialist can give you the full story.

KOPPERS • TAR PRODUCTS DIVISION • PITTSBURGH 19, PA.

DISTRICT OFFICES: BOSTON • CHICAGO • LOS ANGELES • NEW YORK • PITTSBURGH • WOODWARD, ALABAMA

SPECIFY WARE ALUMINUM WINDOWS

PROVEN PERFORMANCE • Millions of Ware Aluminum Windows, in installations all over America—residential, institutional, industrial—have been demonstrating their quality for more than a decade.

NEW DESIGNS • Forward looking management will introduce a number of new designs in the next few months that will add to the attractiveness of this great window line. Write now for details.

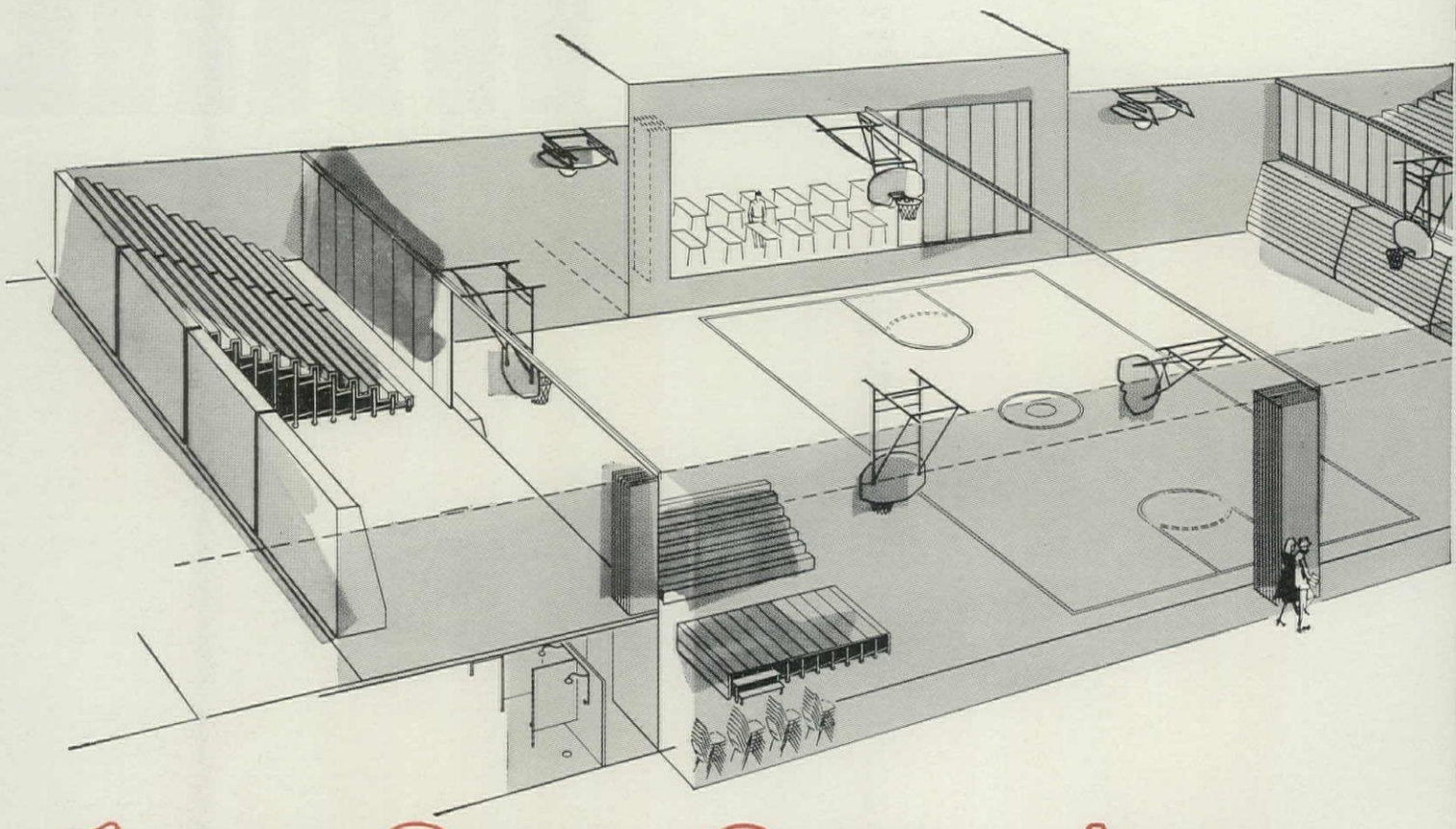


Main Factory at Miami
Distribution Centers at Atlanta, Houston, Chicago, Newark, N. J. and Connellsville, Pa.

WARE ALUMINUM WINDOWS, INC. **3700 N.W. 25th ST. MIAMI • FLORIDA**

NOW...

you can have these 4 exclusive advantages of the new Brunswick Flexi-Gym



1 **Never-before Total-Area Versatility and Space Utilization**

2 **Coordinated Planning, Design, Installation**

3 **One Source Responsibility for Specifications, Performance, Service**

4 **Lower Total Cost when Planned and Installed as a Package**

Only Brunswick, the world's largest manufacturer of gymnasium equipment, can give you the time, cost and functional advantages of the Coordinated Flexi-Gym. Only Brunswick has the experience, the staff and the desire to help you plan and produce a *total* functionally advanced gym . . . a gym area *far beyond* your traditional expectations and at total cost *far below* seating, partitions, backstops, stages planned separately.

BRUNSWICK CORPORATION
2605 E. Kilgore Road • Kalamazoo, Mich.

SEND FOR FREE BOOKLET "GYM IDEAS"

Describes, illustrates recent Flexi-Gym Ideas, recent Installations and Services

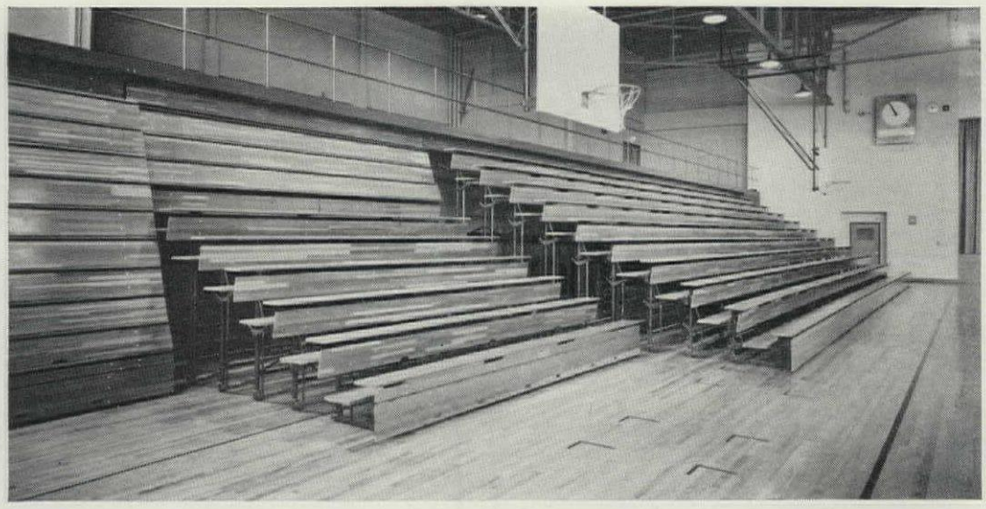
Name_____

Title_____

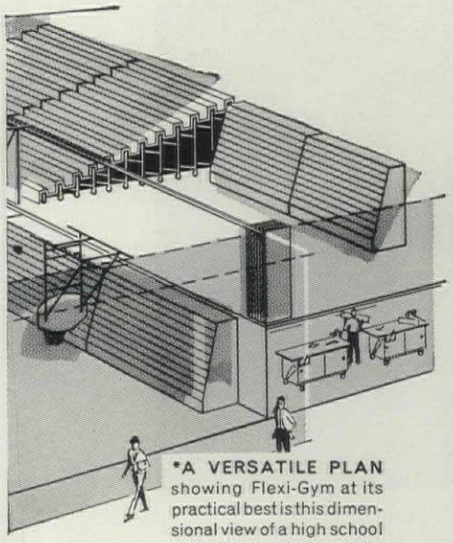
Firm/School_____

City_____ Zone____ State_____

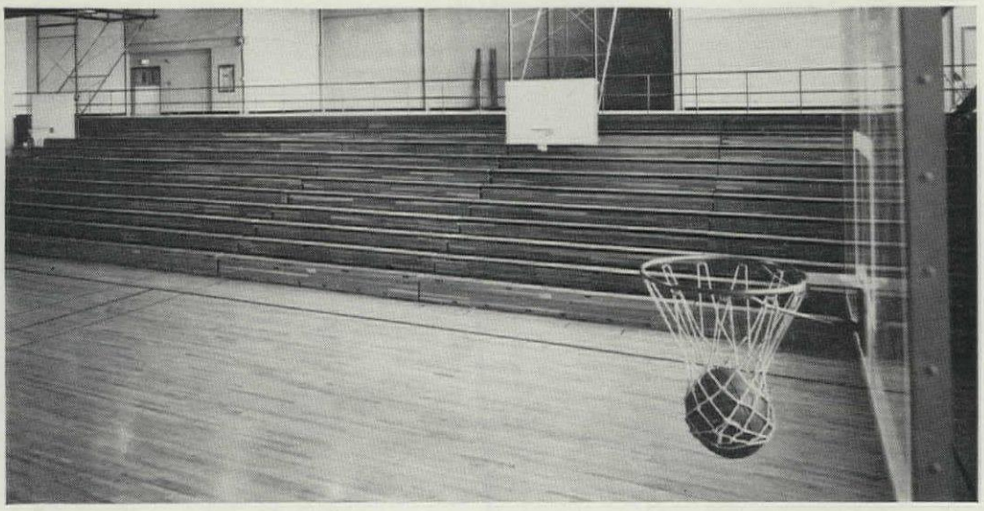
AT WORK—Advanced Planning resulted in a truly versatile 15,600 square foot gymnasium area, Loyola Academy, Wilmette, Illinois; Very Reverend Michael I. English, S.J., School Rector; Naess and Murphy, Architects.



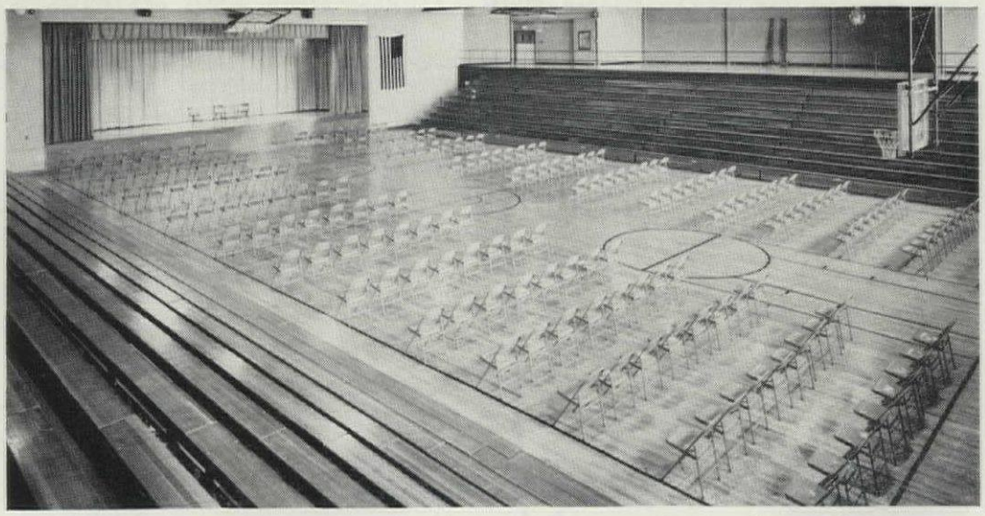
FOLDING GYM SEATING permits transformation of basketball court into dance floor in moments following league games. In 15 minutes two men can set up or remove seating for 1200 students. Additional stands are used on the horseshoe balcony. Easy mobility of stands and self-storing feature permits maximum use of floor space for all-purpose use.



*A VERSATILE PLAN showing Flexi-Gym at its practical best is this dimensional view of a high school "idea" gym designed by the Brunswick Planning Service. It includes 14,400 square feet on main floor and balconies; seating for 5200; can be divided into 5 separate areas for physical education, sports, assemblies, dining areas, study areas, other educational and community purposes.



SIX ELECTRICALLY OPERATED BASKETBALL BACKSTOPS which fold within themselves on the ceiling handle total basketball needs. Main court bankboards are glass to provide complete audience viewing. Wooden backstops are used on four practice court baskets. In addition to extensive intramural and gym play, the school has four basketball teams in interscholastic leagues. Flexibility of basketball set up permits constant use of total gym area for variety of physical ed purposes, including volley ball played on the balcony area. School schedule calls for two classes run at same time.

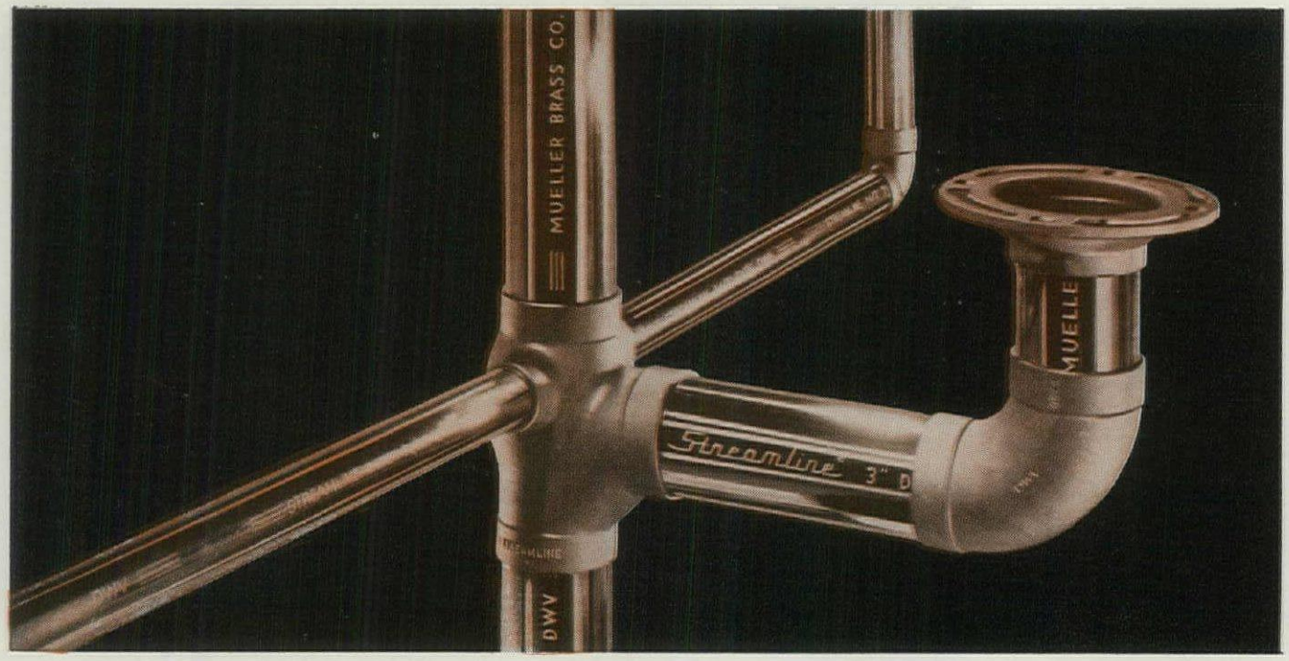


FORMAL AUDITORIUM usage of the gym area is confined to four honor assemblies, June Graduation and three student masses. For these affairs, folding gym seating is augmented with chairs. The 50' x 28' stage is also used by the dance band for three important school dances a year in addition to other purposes. Future plans call for reverse fold gym seating on the balcony with these stands also providing partitioning of the balcony into individual and private class areas.

Streamline® DWV* COPPER

*(DRAINAGE, WASTE AND VENT)

TUBE AND SOLDER-TYPE FITTINGS CAN SAVE YOU UP TO 15% AND YOU GET A BETTER INSTALLATION TOO!



You can install STREAMLINE DWV COPPER TUBE AND FITTINGS at savings up to 15% and get the most modern drainage system possible . . . a compact, space-saving system that's lightweight, sanitary, non-rustable and clog proof.

COMPARISON WITH RUSTABLE MATERIAL PROVES INSTALLED COST OF STREAMLINE DWV COPPER TUBE AND FITTINGS *IS LOWER!**

3" ALL COPPER DWV DRAINAGE INSTALLATION

	COST TO PLUMBING CONTRACTOR
Stack Fittings and Tube	$62.46
Drainage Branch Lines	50.89
Solder and Flux	1.31
Labor	60.00
TOTAL COST OF INSTALLATION	$174.66*

3" GALVANIZED AND DURHAM DRAINAGE INSTALLATION

	COST TO PLUMBING CONTRACTOR
Stack Fittings and Pipe	$53.01
Drainage Branch Lines	30.91
Lead and Oakum	1.00
Labor	120.00
TOTAL COST OF INSTALLATION	$204.92*

3" IRON DRAINAGE INSTALLATION

	COST TO PLUMBING CONTRACTOR
Stack Fittings and Pipe	$26.52
Drainage Branch Lines	30.78
Lead and Oakum	4.87
Labor	120.00
TOTAL COST OF INSTALLATION	$182.17*

*This comparison is based on actual material and labor costs in effect on January 7, 1960, in a mid-west metropolitan area of 75,000 population.

Complete technical information on Streamline DWV Copper Tube and Solder-Type Fittings is included in big, new 32-page Bulletin D-459. Send for your free copy today.



MUELLER BRASS CO.

MUELLER BRASS CO., PORT HURON 9, MICHIGAN

294

HOW DU PONT PUTS THE POWER OF COLOR TO WORK FOR YOUR CLIENTS

Horace Jordan is a Du Pont "Color Counsellor"—one of a staff of specially trained sales representatives whose years of experience qualify them to give expert, on-the-job guidance in solving problems of maintenance painting. Let Horace tell you himself how Du Pont's system of Color Conditioning can put the power of color to work for your clients—at a profit:

"There are *two* ways to economize on maintenance painting. The first consideration, of course, is the selection of quality finishes. When your clients specify Du Pont paints, they're getting finishes that are tough, durable, just right for every job. Believe me, there's no better assurance of lasting protection and long-term economy.

"*Production* savings are something else again—a bonus they get when they paint according to Du Pont's system of Color Conditioning. You see, Du Pont developed this system to create ideal conditions of work or study in every type of plant and institution. Scientifically applied—often under our personal supervision—Color Conditioning harnesses the power of color to promote safety, raise employee morale, boost production. Result: *an extra bonus of savings!*"

If you'd like to discuss maintenance painting problems with someone who knows his business, there's a man like Horace Jordan near you. Call him at your local Du Pont district sales office. For more information, plus the 28-page booklet, "How to Put Color to Work," write: E. I. du Pont de Nemours & Co. (Inc.), Finishes Division, Dept. AF-67, Wilmington 98, Delaware.

* * *

Horace Jordan is a paint expert whose 30 years of experience have helped him solve maintenance problems for a variety of institutions and industries. As a Du Pont "Color Counsellor," he's seen Color Conditioning pay off for countless plants, office buildings, schools, churches and banks. In demand as a speaker, he recently delivered—in a single month—*32* talks on color and its application, at the request of the Department of Home Economics of his state.



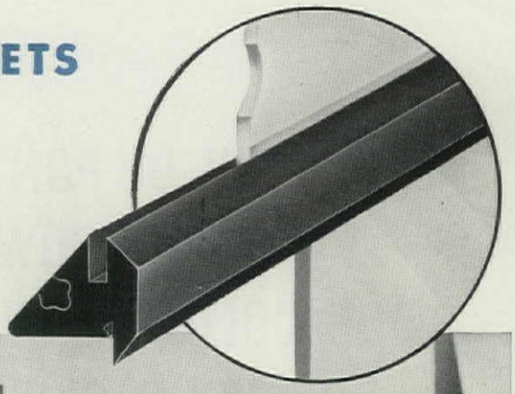
DU PONT COLOR CONDITIONING PAINTS

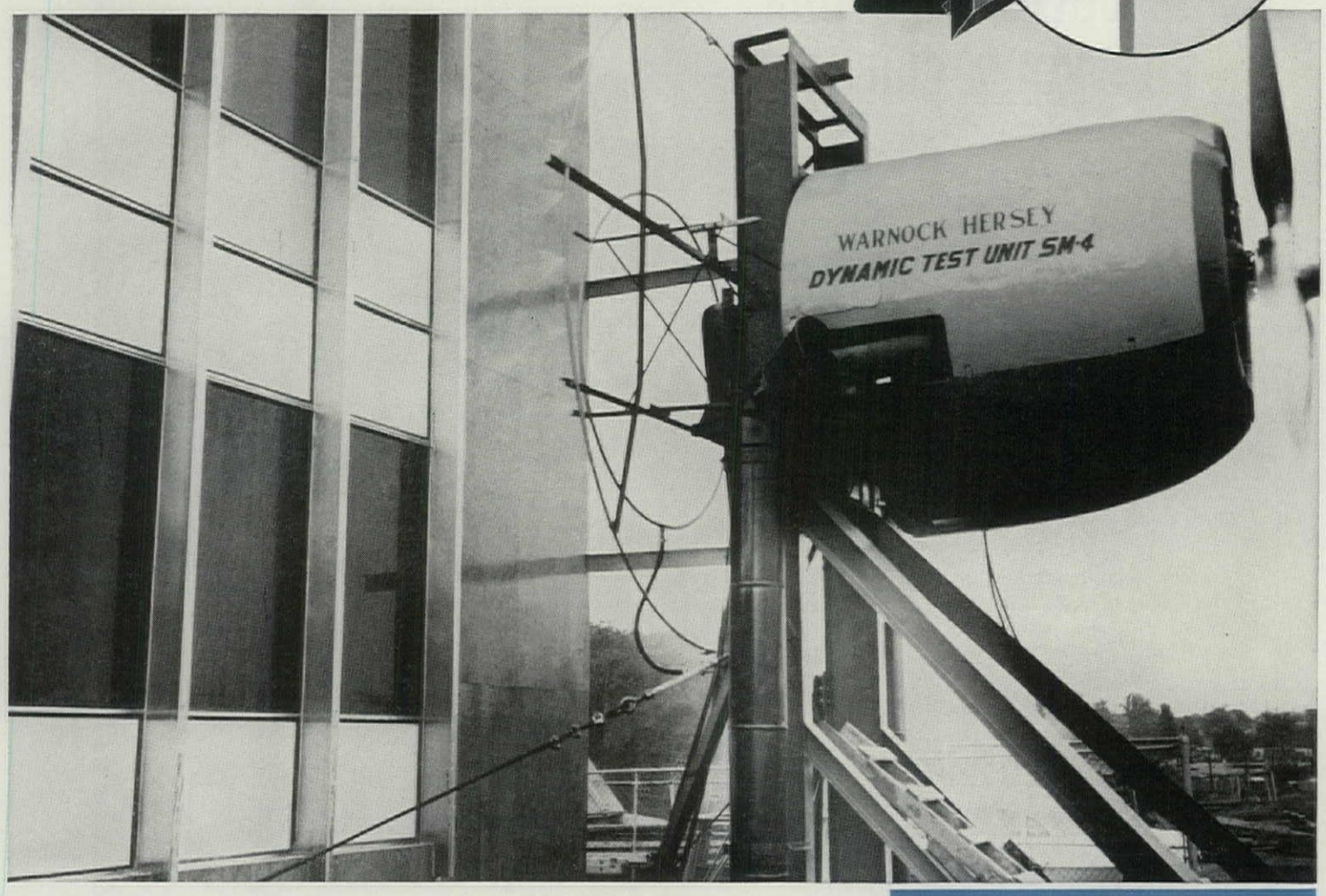
DU PONT
REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

StanSeal STRUCTURAL GASKETS

Save you money... pass rigid "hurricane" tests

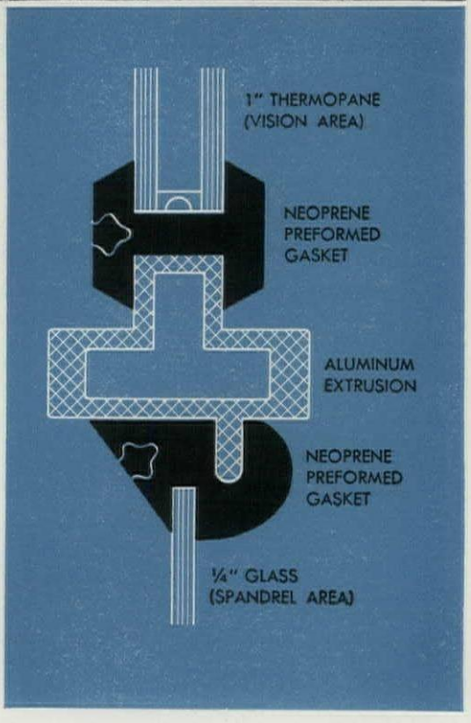




You can save up to 30 cents a square foot on curtainwall construction through the use of STANSEAL structural neoprene gaskets. The job will go up faster, easier—and you need have no fear of troublesome, expensive leaks.

STANSEAL gaskets have been subjected to exceedingly severe tests (as in the photograph above). Air pressure equivalent to wind velocities in excess of *100 miles per hour* have had no effect on the efficiency of these structural neoprene gaskets. Nor have "hurricane" pressures under elevated temperatures. Such performance, combined with the long service life you can expect from properly compounded neoprene makes possible a real weather-tight, maintenance-free building.

STANSEAL gaskets are extruded, hence can take practically any shape that best fits your needs. (See Sweet's Architectural File, Section 3f.) Let us work with you on your next curtainwall building. Send us your detail drawings!



BUILDING PRODUCTS DIVISION

The Standard Products Co.

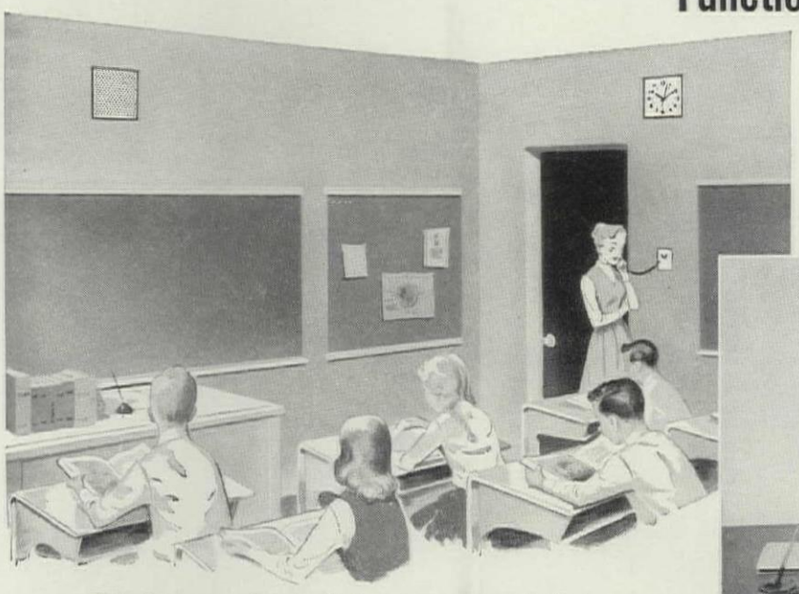
316 FISHER BLDG., DETROIT 2, MICHIGAN

General Office: Cleveland, O. • Plants in Port Clinton, O., Lexington, Ky., Gaylord, Mich., St. Clair, Mich., Fullerton, Calif., and Fort Lauderdale, Fla.
In Canada: Standard Products Co. (Canada) Ltd., Windsor, Ontario.

NEW for Schools...

PRACTI-CALL® ... the practical, all-purpose communication system

"Functionalism without Frills"



Telephone permits private, two-way communication.
Wall speaker provides for general announcements, special events, emergency instructions, etc.
Wiring is in same conduit as clock and program system.

PRACTI-CALL system is incorporated as part of clock and program system ... utilizes same conduit, existing bell control board (background) ... is operated by office secretary.



Here at last is an *economical, sensible* communication system designed especially for schools. PRACTI-CALL fills *all* school communication needs:

1. General announcements, news, special events, emergency instructions, etc. are communicated to all classrooms simultaneously through an "all call" speaker system.
2. Conversations requiring privacy (approximately 90% of all intra-school communication) are carried on over a private telephone system.

With all its flexibility of use ... an adaptability never before available ... PRACTI-CALL costs *substantially less.* No bulky, high cost console ... no intricate mechanisms to go awry.

IMPRESSIVE INSTALLATION SAVINGS—All basic wiring runs in the *same conduit* as the school's clock and program system ... effecting additional important savings on installation.

PIN-POINTED RESPONSIBILITY—Service, whether on clock and program system or communication system, is from a *single source* when PRACTI-CALL is specified with a STANDARD program system.

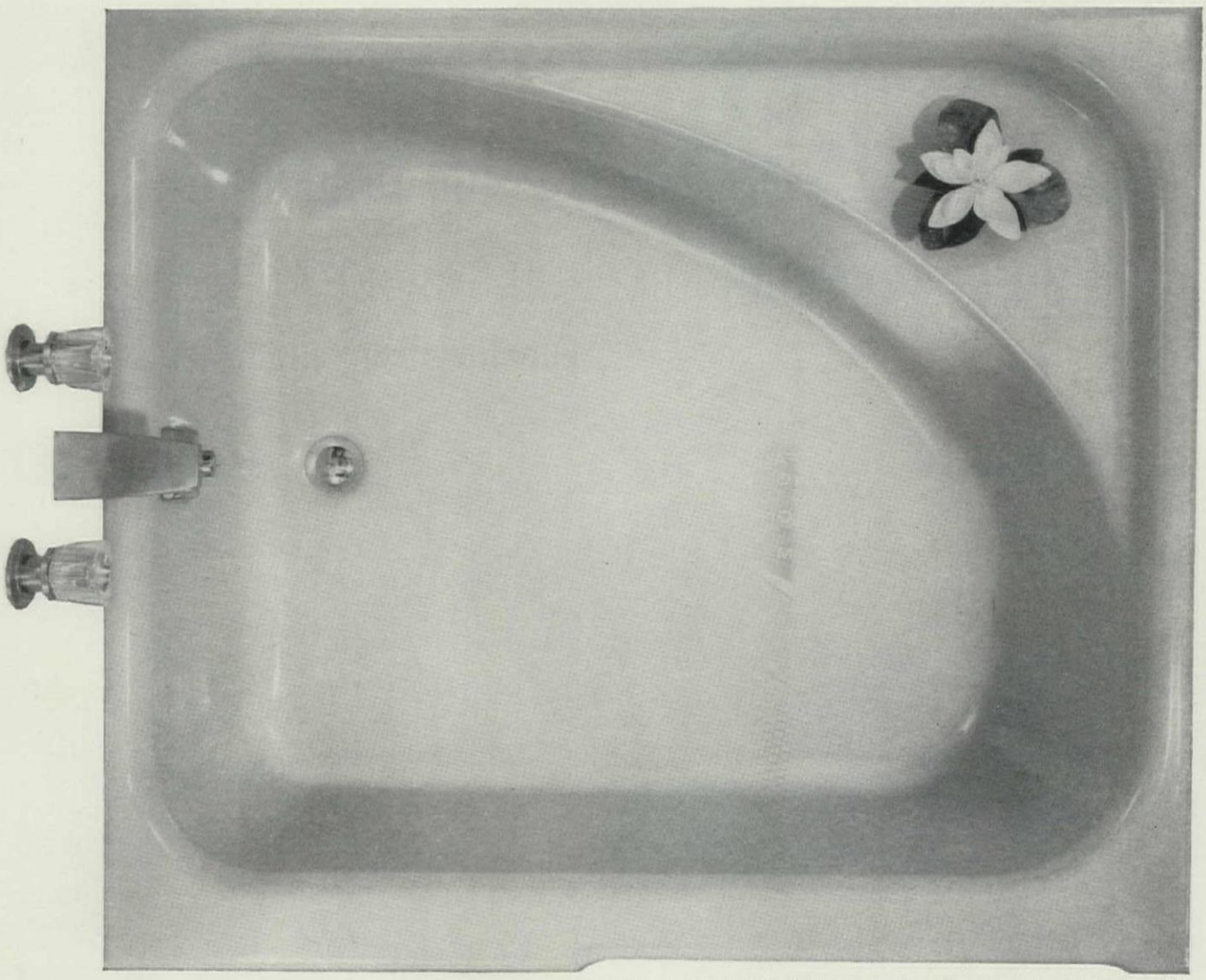


Request Bulletin No. 248 containing complete information and specifications.

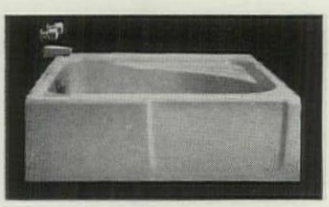
STANDARD TRADEMARK Time

THE STANDARD ELECTRIC TIME COMPANY

89 LOGAN STREET • SPRINGFIELD, MASSACHUSETTS



Clean, modern styling. 48" long, 42" wide, 14" high. Six pastel colors and snowy white.



Straight apron floor line minimizes tile cutting and installation costs—back and ends flanged for wall tiling.

Distinctive beauty—generous bathing area—integral corner seat and wide rim seat . . . these are just some of the *preferred* features found in the new *Delray* square recess bath by Eljer. Nationally advertised to help *presell* your customers, the new *Delray* is currently featured in full-page, four-color ads in *House Beautiful* and *Living for Young Homemakers* magazines.

ELJER

Division of The Murray Corporation of America

Three Gateway Center
Pittsburgh 22, Pa.



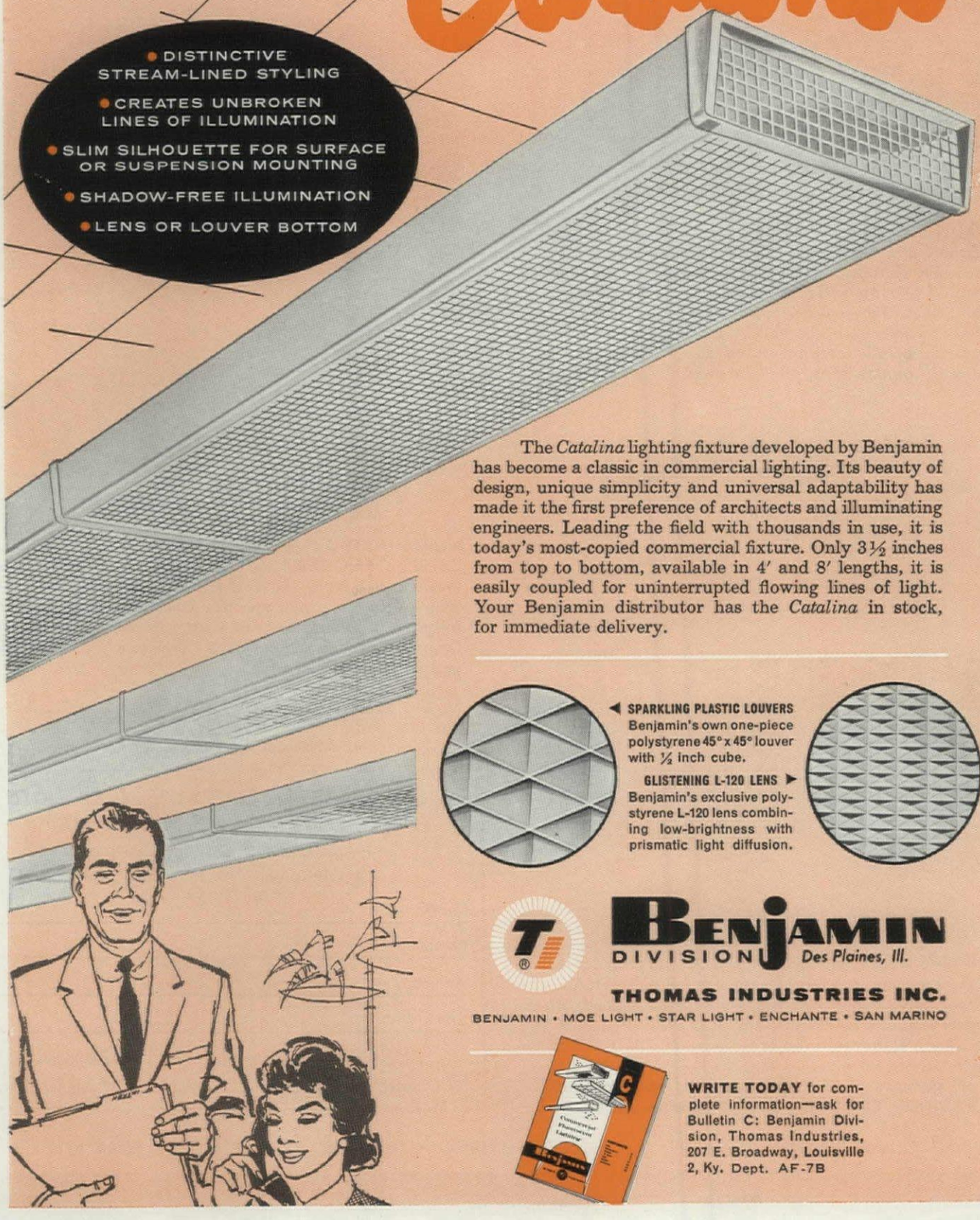
Estate de luxe siphon jet toilet is styled and color-matched to complement other fine Eljer Fixtures.

YOU GET THE ORIGINAL WHEN YOU SPECIFY...

THE CLASSIC

Catalina

- DISTINCTIVE STREAM-LINED STYLING
- CREATES UNBROKEN LINES OF ILLUMINATION
- SLIM SILHOUETTE FOR SURFACE OR SUSPENSION MOUNTING
- SHADOW-FREE ILLUMINATION
- LENS OR LOUVER BOTTOM



The *Catalina* lighting fixture developed by Benjamin has become a classic in commercial lighting. Its beauty of design, unique simplicity and universal adaptability has made it the first preference of architects and illuminating engineers. Leading the field with thousands in use, it is today's most-copied commercial fixture. Only 3½ inches from top to bottom, available in 4′ and 8′ lengths, it is easily coupled for uninterrupted flowing lines of light. Your Benjamin distributor has the *Catalina* in stock, for immediate delivery.

◀ **SPARKLING PLASTIC LOUVERS** Benjamin's own one-piece polystyrene 45° x 45° louver with ½ inch cube.

GLISTENING L-120 LENS ▶ Benjamin's exclusive polystyrene L-120 lens combining low-brightness with prismatic light diffusion.

BENJAMIN DIVISION *Des Plaines, Ill.*

THOMAS INDUSTRIES INC.

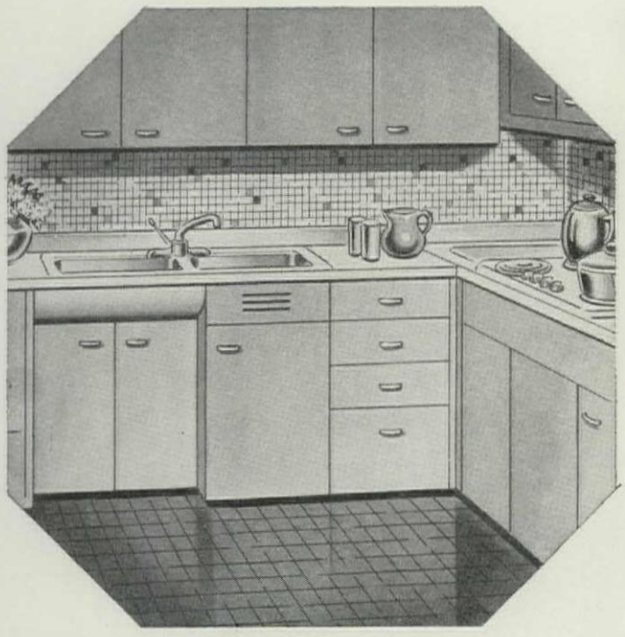
BENJAMIN • MOE LIGHT • STAR LIGHT • ENCHANTE • SAN MARINO

WRITE TODAY for complete information—ask for Bulletin C: Benjamin Division, Thomas Industries, 207 E. Broadway, Louisville 2, Ky. Dept. AF-7B

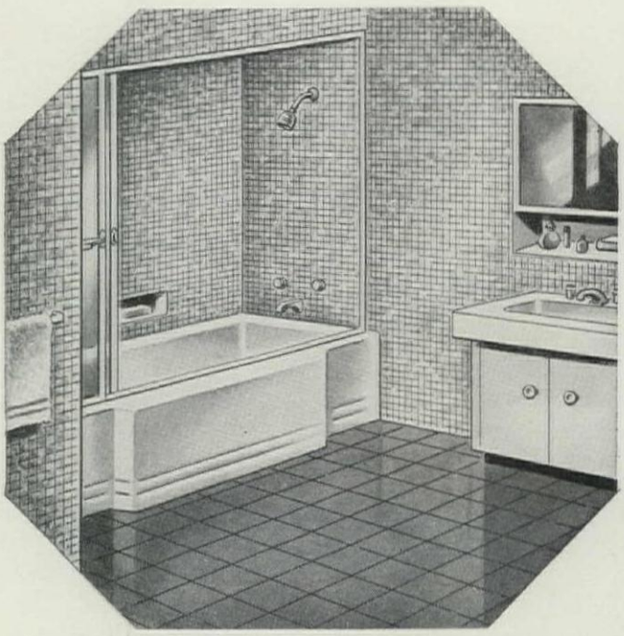
MODERNIZE...GLAMORIZE

WITH *Capri*

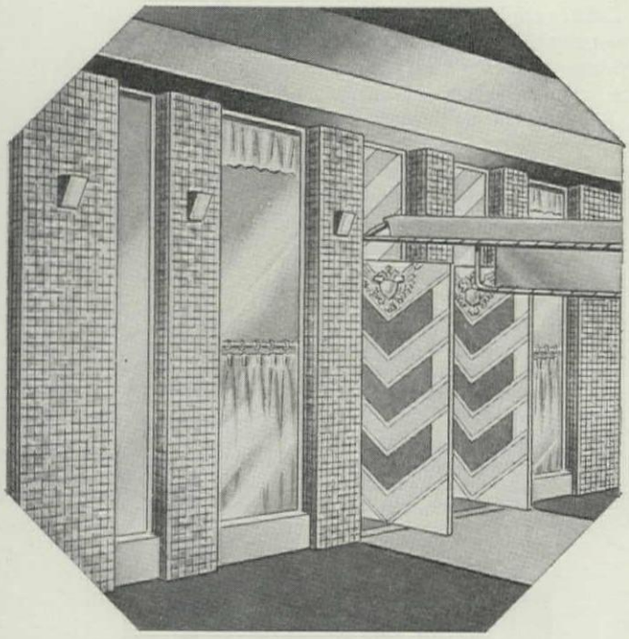
CERAMIC MOSAIC TILES



FOR KITCHENS in private dwellings, as well as hotels, restaurants, hospitals, etc., CAPRI MOSAIC TILES add esthetic luxury and practicality... mosaic tiles are becoming increasingly popular — in fact — ***an integral*** part of a model sanitary functional kitchen. They embody all of the concepts of elegance, easy maintenance, durability and are remarkably economical. ***Especially recommended for Kitchen backsplashes and Counter Tops, as illustrated.***



NOW SUMPTUOUS BATHROOMS are within the reach of all. CAPRI MOSAIC TILES, such as were used in the historically famed Roman Baths, are available in a wide range of 88 dazzling colors (or in random color combinations, as specified). ***Impervious to moisture and water,*** CAPRI MOSAIC TILE surfaces add prestige and opulence...easy to maintain...sanitary and exceptionally durable.



STORE FRONTS long recognized as the first lure to prospective customers, are the most logical places to install CAPRI MOSAIC TILES... they are cleaned with the same simple method of washing store windows. CAPRI MOSAIC TILES are a product of the world's finest craftsmen; fired at more than 2,000°F. heat, imparting a permanent glaze to their body; insulating them against all elements of time and weather... ***guaranteed against*** **FADING — CRAZING — AND THERMAL-SHOCK.**

MAIL COUPON FOR FREE LITERATURE AND CAPRI COLOR CHART

STANDARD TILE CO., INC.
854-868 ROCKAWAY AVE., BROOKLYN 12, N.Y.

Please send additional information about
CAPRI CERAMIC MOSAIC TILES

Name _____

Company _____

Address _____

City _____ State _____

☐ For New Construction ☐ For Remodeling

☐ Architect ☐ Builder ☐ Contractor ☐ Designer Decorator

VISIT OUR PERMANENT EXHIBIT • ARCHITECTS BUILDING • 101 PARK AVENUE • NEW YORK CITY

Capri®

STANDARD TILE CO., INC.
854-868 ROCKAWAY AVE., BROOKLYN 12, N.Y.

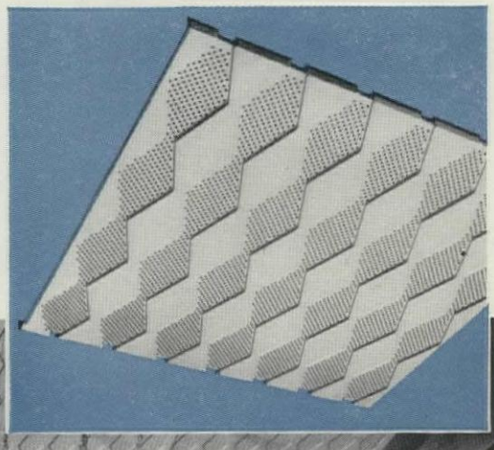
FOR STRIKING, MODERN CEILING EFFECTS...

Specify Eastern's New Sparkle Panel

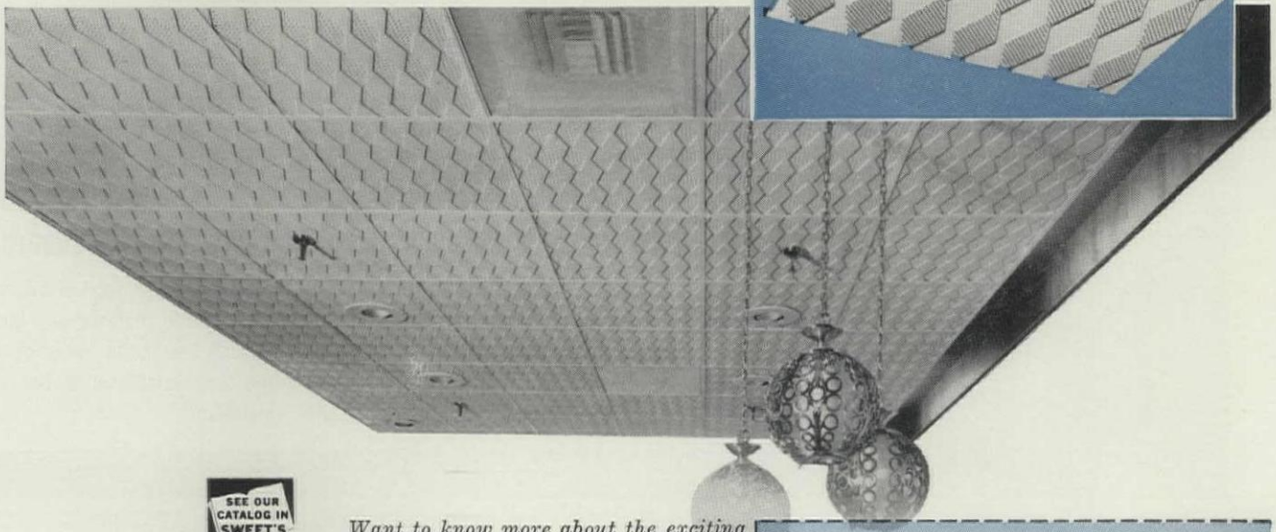
The attractive, three-dimensional design, developed for Eastern's Sparkle Panel by Lippincott and Margulies, gives this new metal lay-in tile an ultra-modern face . . . suggesting unusual opportunities for striking ceiling effects.

Sparkle Panel, built for simple and economical installation in 2′ x 2′ and 2′ x 4′ sizes, is a die-formed sound buffer which does not require hold-down clips . . . and is, therefore, fully accessible. A functional flange on its two sides, keeps the panel flat and permanently in place.

The prime steel used in Eastern's Sparkle Panel is put through a multi-stage anti-corrosion process, then coated with a permanent refrigerator-type enamel. To retain Sparkle Panel's original lustre for life, only an occasional dusting is all that is ever needed.



...A METAL ACOUSTICAL LAY-IN TILE OFFERING UNUSUAL DESIGN FLEXIBILITY!



SEE OUR CATALOG IN SWEET'S OR WRITE FOR COPY

Want to know more about the exciting Sparkle Panel story? Send coupon today!

Eastern Products Corporation

EASTERN PRODUCTS CORP.
1601 Wicomico St., Baltimore 30, Md.

EASTERN PRODUCTS CORPORATION ACOUSTICAL DIV.
1601 Wicomico Street, Baltimore 30, Md.

Please send me full information on your new Sparkle Panel

NAME _____

FIRM _____

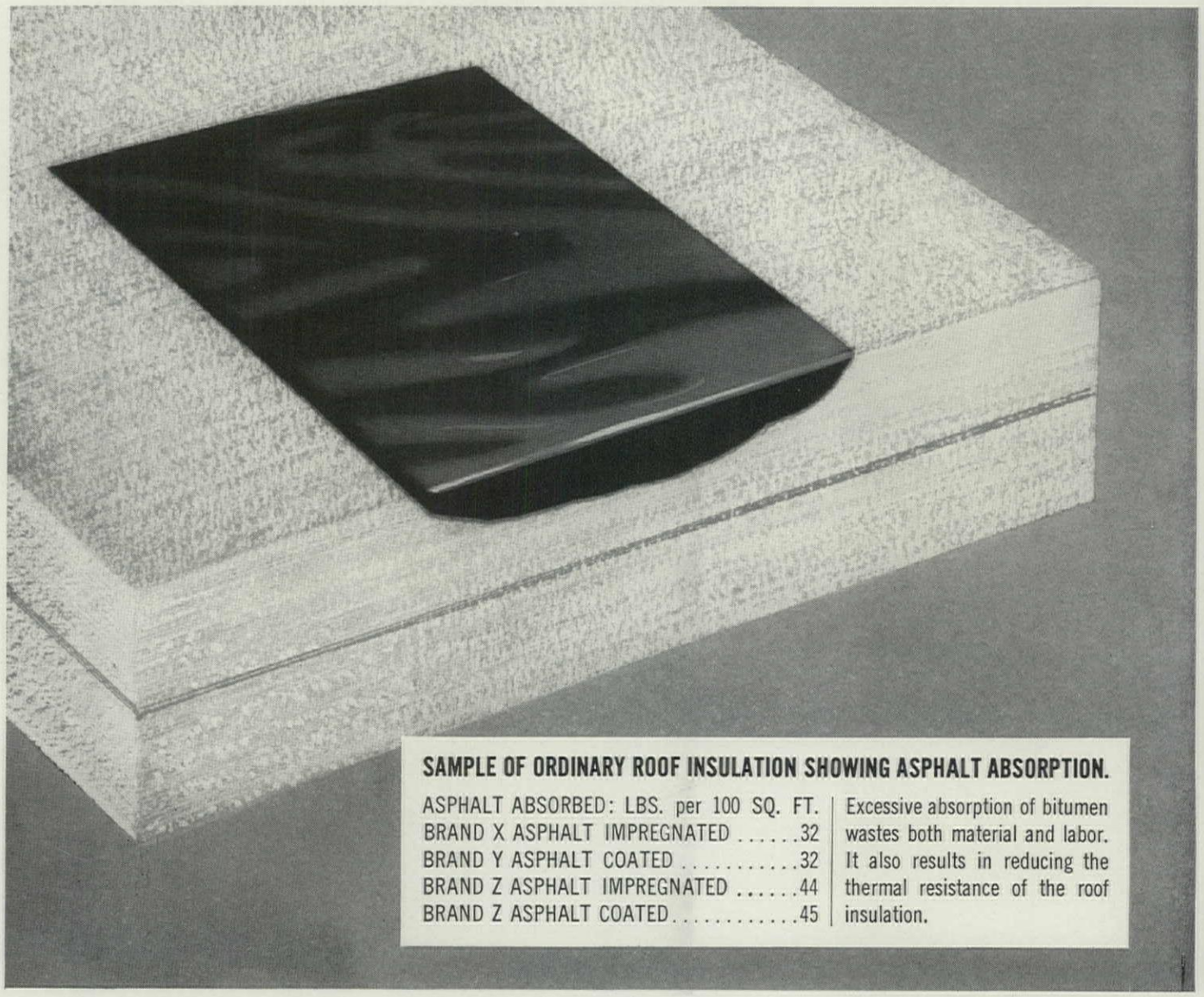
STREET _____

CITY _____ STATE _____

FLINTKOTE ANNOUNCES A

IN ROOF INSULATION...NEW!

keeps Bitumen on the roof instead of



SAMPLE OF ORDINARY ROOF INSULATION SHOWING ASPHALT ABSORPTION.

ASPHALT ABSORBED: LBS. per 100 SQ. FT.	
BRAND X ASPHALT IMPREGNATED	32
BRAND Y ASPHALT COATED	32
BRAND Z ASPHALT IMPREGNATED	44
BRAND Z ASPHALT COATED	45

Excessive absorption of bitumen wastes both material and labor. It also results in reducing the thermal resistance of the roof insulation.

EVERYBODY BENEFITS WITH NEW GOLD-N-KOTE!

ARCHITECTS can specify Gold-N-Kote for a superior bonding at lower costs.

BUILDING OWNERS save on maintenance cost through added insulation. There's less danger of blow-offs, fewer blisters and wrinkles.

GENERAL CONTRACTORS can do faster jobs.

ROOFING CONTRACTORS get more effective use of bitumen, faster application, fewer call backs.

MOP MEN take less effort to swing the mop.

FELT LAYING MEN have more time to align felt rolls.

BONDING ROOFING MANUFACTURERS make fewer "pay-outs" from failures caused by improper adhesion.

GREAT NEW DEVELOPMENT

GOLD-N-KOTE*

in it to provide a superior bond at lower costs!



SAMPLE OF NEW GOLD-N-KOTE SHOWING ASPHALT ABSORPTION.

ASPHALT ABSORBED: LBS. per 100 SQ. FT.
GOLD-N-KOTE PLAIN.....ONLY 15 LBS.
GOLD-N-KOTE ASPHALT
IMPREGNATED.....ONLY 15 LBS.

*Trademark of The Flintkote Company

FLINTKOTE

Manufacturer of America's Broadest Line of Building Products

THE FLINTKOTE COMPANY

30 Rockefeller Plaza, New York 20, N. Y.



PLEXIGLAS

Only dome skylights made of PLEXIGLAS® acrylic plastic—the *original* and the *best* material for domes—can bear the label shown above. It is your assurance of completely successful performance in light transmittance, daylight control, heat-light ratio, surface brightness and outdoor stability.

In your skylight specifications, insist on domes of PLEXIGLAS—approved as a dome material by the Building Officials Conference of America (Report No. 54-12A) and the International Conference of Building Officials (Report No. 1084.1). PLEXIGLAS is made only by Rohm & Haas, and is used by the dome skylight manufacturers listed below.

Chemicals for Industry

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

In Canada *Rohm & Haas Company of Canada, Ltd., West Hill, Ontario*

PLEXIGLAS DOME SKYLIGHT MANUFACTURERS

CALIFORNIA
Skyco, Inc.
3724 Park Place
Montrose, Calif.

COLORADO
Plasticrafts, Inc.
2800 N. Speer Blvd.
Denver 11, Colorado

FLORIDA
Hill Fan Company
3395 N.W. 67th St.
Miami, Florida

INDIANA
Howe Engineering Co.
5800 E. Massachusetts Ave.
Indianapolis, Indiana

MASSACHUSETTS
E. Van Noorden Co.
100 Magazine St.
Boston 19, Mass.

OKLAHOMA
Plastic Engineering Co. of Tulsa
510 N. Sheridan
Tulsa 4, Oklahoma

OREGON
The Pam Company
1951 N. W. Wilson St.
Portland, Oregon

PENNSYLVANIA
Bohem Mfg. Co., Inc.
12 Water St.
Bryn Mawr, Pennsylvania

SOUTH CAROLINA
Mid-South Industries, Inc.
6000 Main St.
Columbia, So. Carolina

TEXAS
Naturalite, Inc.
5115 E. Grand Ave.
Dallas, Texas

Plasteco, Inc.
8721 Market St. Rd.
Houston 11, Texas

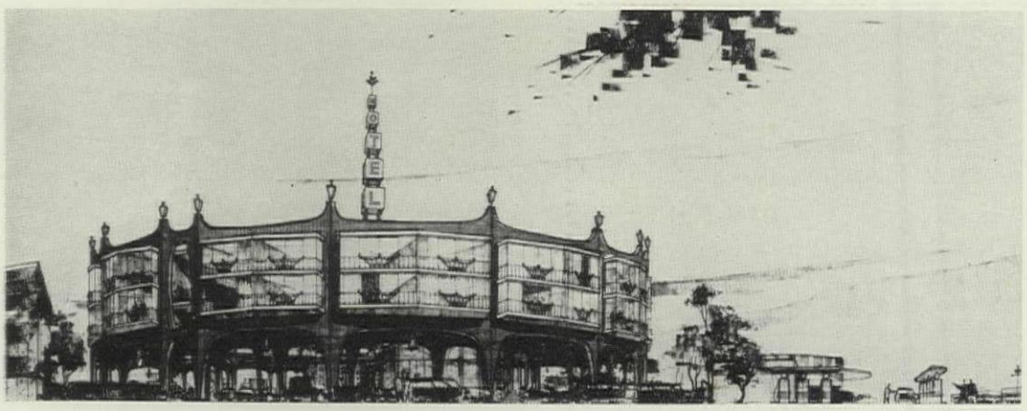
Southwestern Plastics Co.
5615 Rice Ave.
Houston 36, Texas

A roundup of recent and significant proposals



ARCHITECTURE AT PRINCETON

Princeton University is currently passing a capacious hat among alumni for $53 million, part of which will go toward badly needed buildings. Of that sum, $1.5 million has been allotted to the School of Architecture's handsome new quarters (left), by Architects Fisher, Nes, Campbell & Associates of Baltimore. Above the ground-floor administrative and classroom spaces will be a 20-foot-high drafting room. Solid brick panels, trimmed in limestone, project from the drafting-room floor; inside, these spaces will display student work, lighted by narrow window strips flanking each panel edge.

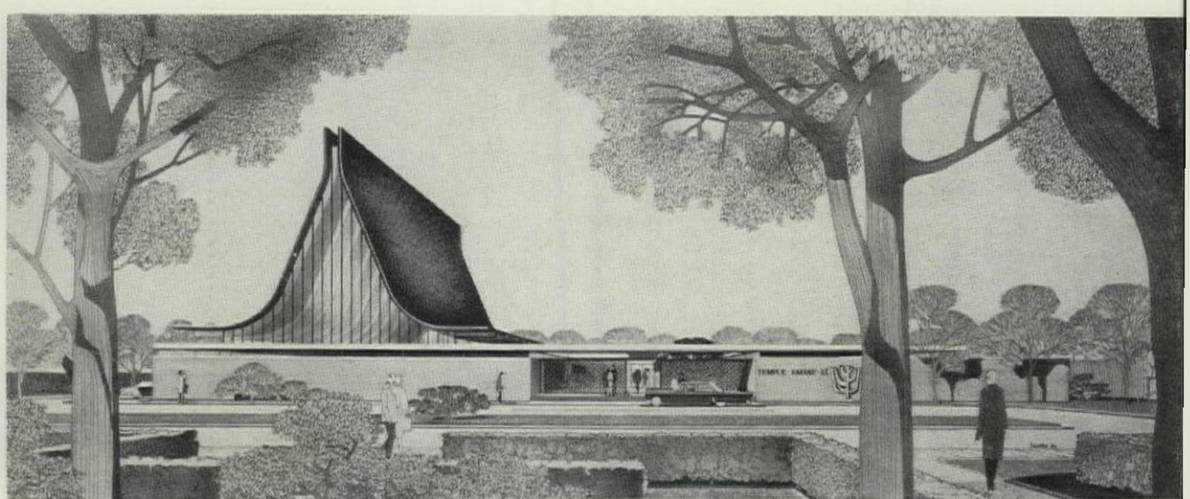


SAN FRANCISCO MOTEL

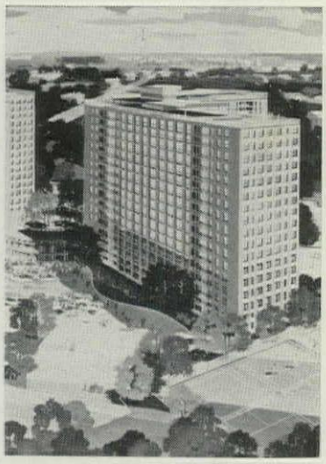
A windy site in San Francisco, close to Fisherman's Wharf, forced Anshen & Allen to forego the balconies they had planned around this two-story motel (left). Instead, they provided shallow bay windows in each unit and an open, landscaped court in the motel's center. A precast concrete platform will raise the motel 20 feet; above that, the frame will be of wood. Parking will be under the ring.

NEW JERSEY SYNAGOGUE

A tent of wood planking over laminated wood bents will roof part of Temple Emanu-El in Livingston, N.J. Along the ridge there will be a skylight, and more glass, perhaps in a color, will fill the east and west ends. Under the wood tent, two sets of sliding doors divide the 175-seat sanctuary from the social hall. During High Holy Days, the sanctuary will expand to accommodate 600; for large social occasions, the sanctuary portion will shrink. Architects: Blake & Neski.







NEW YORK CITY APARTMENTS

The World's Fair date of 1964 is also the target date set by the Lefrak Organization for completion of Lefrak City (above and left), a 5,000-apartment, 20-building project in Forest Hills, Queens, N.Y. Four 16-story apartment towers, built at right angles to each other, will cluster around fountains and circular gardens. There will be five apartment clusters and a shopping center, all designed by the Lefrak staff, of which Jack Brown is chief architect.

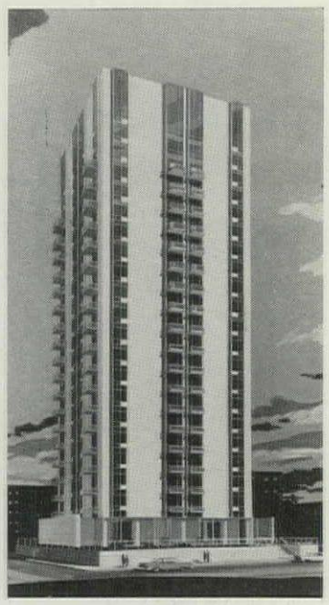
SCIENCE BUILDING BRIDGES STREET IN OREGON

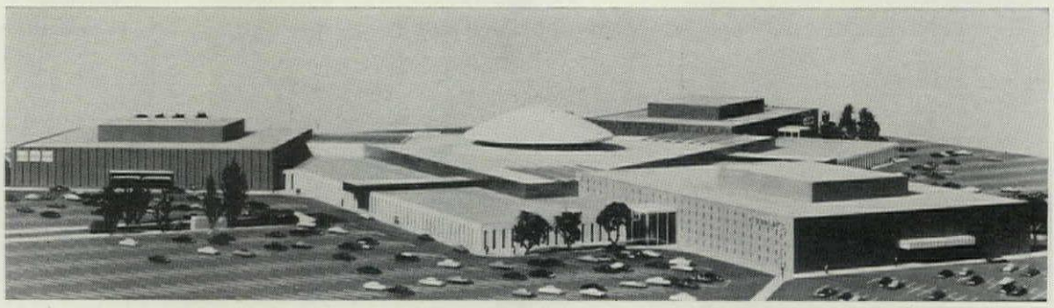
The composite photograph below shows how the University of Oregon's science building in Eugene will look when completed: steel lattice, strung between concrete piers, spans a street, an alley, and some one-story university buildings. The bridge idea stems from work by Lawrence, Tucker & Wallman, the building's architects, and the State College engineering department to find an exterior wall which would free the interior from columns and allow several window treatments. They arrived at an exterior "space frame" which integrates floors and trusses and hides window inconsistencies in the curtain wall behind. A narrow walkway will run between frame and wall.



MANHATTAN NURSES' TOWER

A $21 million building program is one part of Memorial Sloan-Kettering Cancer Center's all-out drive to raise $126.5 million in five years. One of the first buildings slated for construction is a $5 million, 20-story nurses' residence (below) by Harrison & Abramovitz, which will rest on a terrace above a New York City sidewalk. The tower walls, of glazed brick panels, glass, and aluminum, will contrast with the limestone facing on the first level, above the base platform.



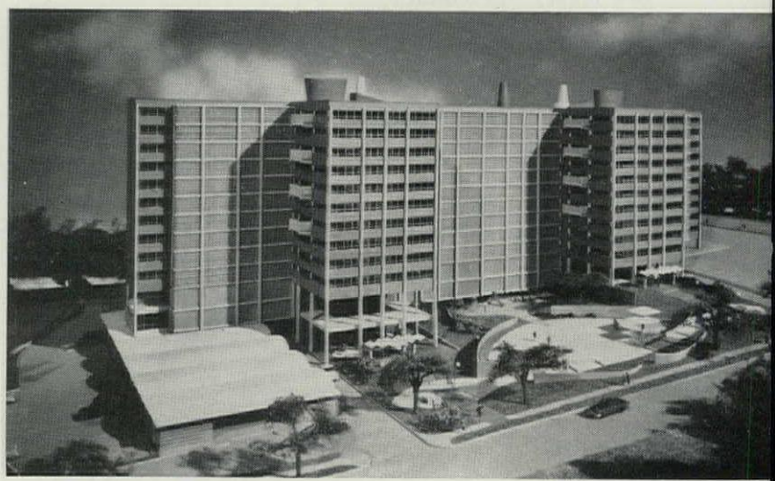


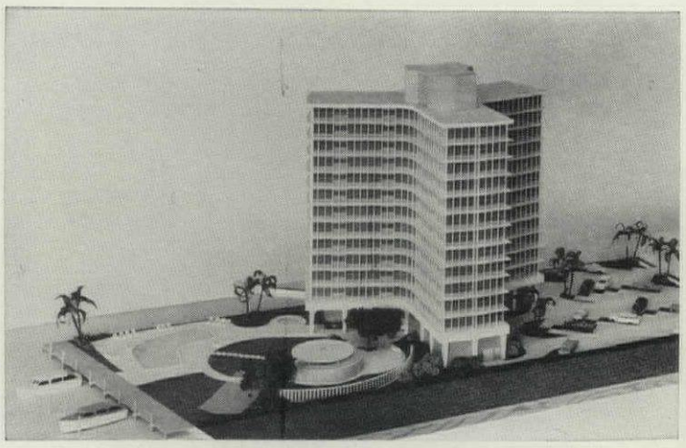
$20 MILLION SHOPPING TRIANGLE NEAR CHICAGO

Three major department stores —Carson, Pirie, Scott & Co., Montgomery Ward & Co., and Wieboldt Stores, Inc.—have set up the Randhurst Corp. to build "the largest regional shopping center in the U.S." at Mt. Prospect, Ill. (above). Victor Gruen Associates, Randhurst's architects, planted the stores at the points of the triangular plan; the spaces between will be occupied by more than 100 smaller stores. In the center, under a steel dome, there will be a three-level plaza, where restaurants and shops will be arranged around an open space for public events: fashion shows, concerts, and exhibits.

NEW JERSEY COOPERATIVE

The adjoining 11-story buildings (right) are cooperative apartments being built under Section 213 as part of a Title I project in New Brunswick, N.J. Because the site adjoins the New Jersey College for Women campus, most owners will be faculty members there or at Rutgers. Half of the apartments will have precast concrete balconies, glued (with an epoxy) to brackets cantilevered from exposed columns. Architects: Turano - Gardner Associates of New York City.



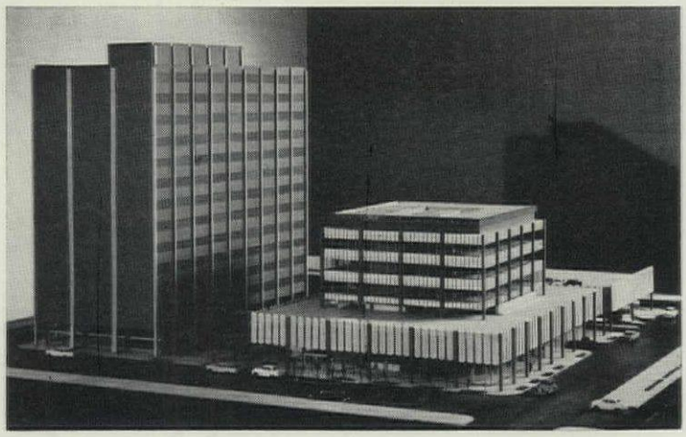


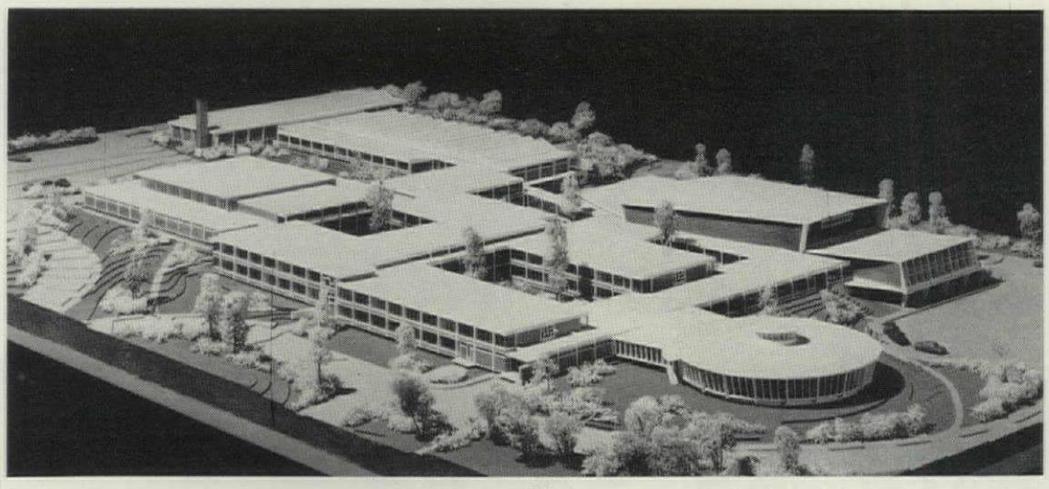
THREE-PRONGED APARTMENTS IN MIAMI

Fanning out from a utility core, the three wings of the Continental apartment building in Miami are arranged so that all tenants will survey Biscayne Bay or an assortment of pools and gardens on the premises. The exterior wall is a series of precast concrete mullions, glass, and precast concrete panels. Loads transmitted by the mullions are picked up by a pedestal supported, in turn, by sculptured concrete columns on the ground floor. Polevitzky, Johnson & Associates of Miami are the architects.

THREE-PART DESIGN FOR TWO OWNERS OF A TEXAS BLOCK

When the American National Bank in Beaumont, Tex. acquired a block site for a new building, it decided to sell part of the land for an office building of compatible design. To Architects Harrell & Hamilton fell the task of working out designs for both owners, as well as a third structure for parking. Result: 13 office stories for Centex Properties, Inc., a five-story bank building of gray glass and aluminum frames and spandrels (shaded by a translucent marble outer wall), and a two-story garage behind the bank.



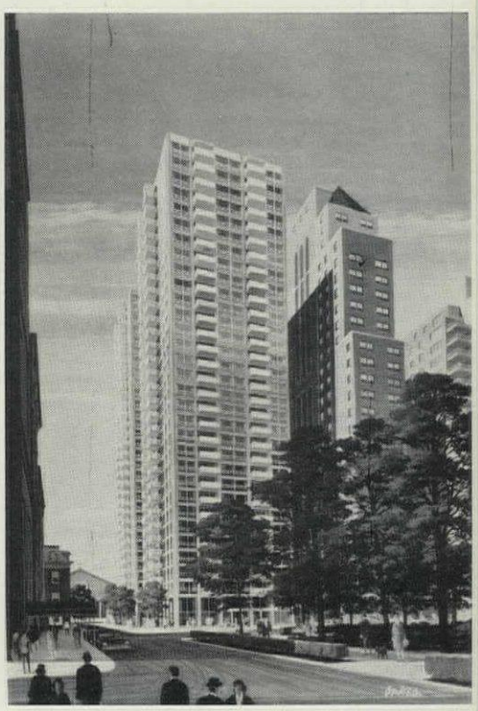


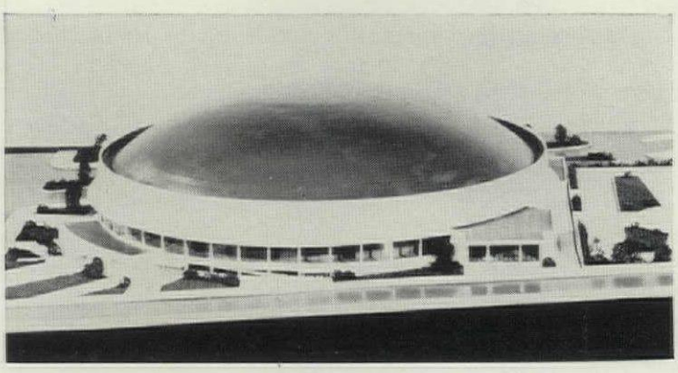
NEW ENGLAND HIGH SCHOOL CAMPUS

North Senior High School in Weymouth, Mass. (above), for 2,000 students, including 350 in a vocational wing (top, left), will be of reinforced concrete, brick, and glass. Classroom sections, grouped around open courts, will be two stories high, while the outlying gymnasium, circular cafeteria seating 750, and swept-wing auditorium (right, rear) will be one-story structures. Bids came in at $13.65 per square foot, a construction contract cost of $3.7 million for a total of 196 rooms. Scattered parking areas will hold up to 500 cars. The school's architects are Coletti Brothers of Boston.

PHILADELPHIA APARTMENTS

Rimmed with balconies from the third floor up, this 32-story tower (below) on Philadelphia's Rittenhouse Square will offer 499 luxury apartments. Another tower, twin to the first, will be built 40 feet away and connected to it at the first floor. Milton Schwartz & Associates designed the towers for Webb & Knapp, Inc. The first tower, facing the square, will cost $9 million and is scheduled for construction this fall.





NASHVILLE AUDITORIUM

Thirteen years ago Nashville voters approved bonds to finance a municipal auditorium, but a site proved harder to find than the money. Now, however, an urban renewal site has been designated and a building designed. The domed plan (left), by Marr & Holman, would give the city 76,226 square feet of exhibition space and a small arena.



FOR A QUALITY ROOF, IT'S BARRETT

- FINEST MATERIALS . . . BOTH ROOFING AND ROOF INSULATION
- APPLIED BY BARRETT APPROVED ROOFERS
- BACKED BY BARRETT ROOF INSPECTION SERVICE

Taking chances can be fun. But if you like to play it safe—at least where roofs are concerned—specify Barrett. Pitch or asphalt, applied over Barrett surface-sized roof insulation, adds up to roofs that will be giving trouble-free service when the present board chairman's son is board chairman.



ACROSS THE BOARD

Barrett's SPECIFICATION® Roof is the **only** 25-year bonded pitch and felt roof. For buildings requiring an asphalt flat roof, we've got the best, too—the new ANCHORBOND†. And now we've added the finest fiberboard roof insulation. For 106 years, Barrett has offered the finest in built-up roofing materials.

BARRETT IS OUT TO HELP YOU! With a line of dependable, highest quality building materials that includes: ASPHALT SHINGLES • ROLL ROOFINGS • FIBERBOARD PRODUCTS • ALUMINUM SIDING • GYPSUM PRODUCTS • PROTECTIVE COATINGS AND CEMENTS.

BARRETT DIVISION
40 Rector Street, New York 6, N. Y.

Allied Chemical

†Trade Mark of Allied Chemical Corporation

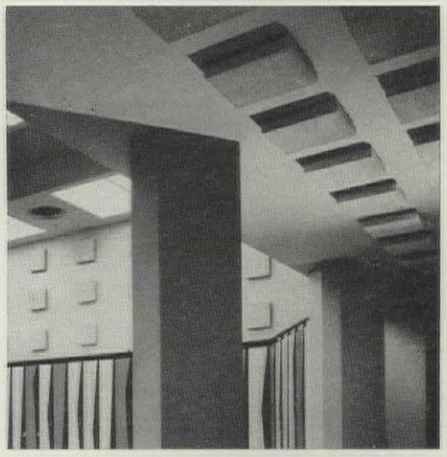
THE CLEAN-CUT "ARCHITECTURAL LOOK"

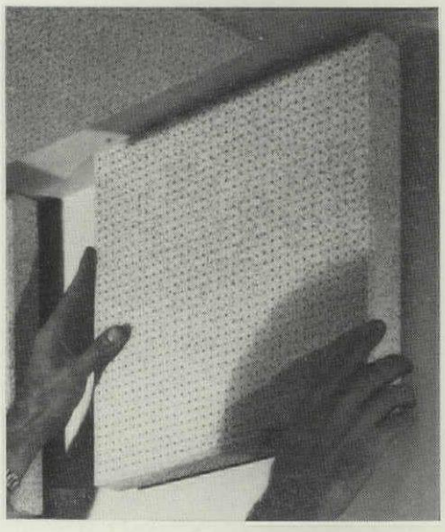
Here you see one of the striking new 1000 SERIES desks by GF—designed by one of America's leading architectural firms. Functionally styled, with all-flush surfaces and clean uncluttered lines. Combines the modern "architectural look" with unmatched GF quality. Models for both private and general offices. For that new office building on your drawing board, specify this architect-styled beauty
The General Fireproofing Company, Dept. C-18, Youngstown 1, Ohio.



1000 SERIES BY **GF**

GENERAL FIREPROOFING
BUSINESS FURNITURE





Sound-absorbing spots . . . folded-plywood roof . . . bubble threshold . . . computer-room floor

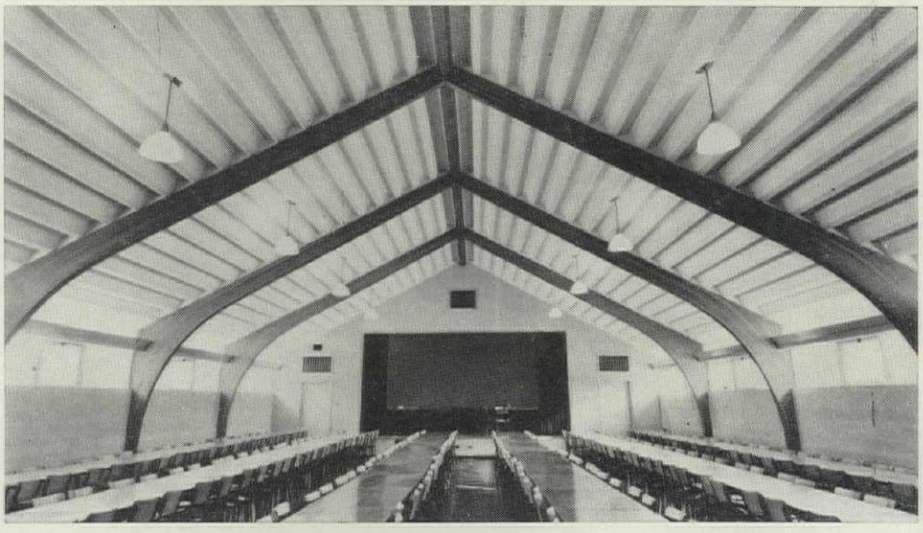
ACOUSTICAL PATCHES

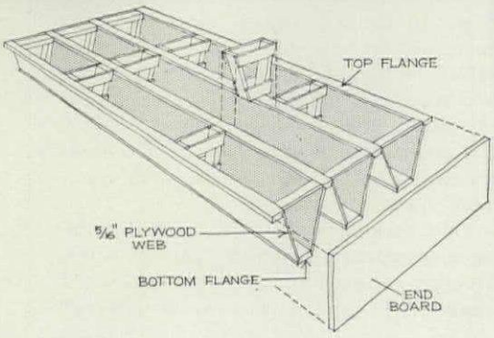
An acoustical treatment applied to walls or ceilings in "spots" instead of continuous stretches is called *Geocoustic* by its manufacturer, Pittsburgh Corning Corp. Acoustical experts have known for some time that good hearing conditions could be achieved by using scattered sound-absorbing material, but Pittsburgh Corning cites its cellular glass unit as "the first practical patch absorber." In this concept, Geocoustic units are separately distributed at the most efficient points—usually at or near the corners of rooms and along the edges of walls or ceilings—to absorb sound. This means that sounds reflected from the room's hard surfaces are softened and diffused by the patch absorbers. Where these units are placed and how many are used depend on the geometry of the room and the acoustical effect desired. The important consideration in placement is that the patches be separate (rather than butted together) and that they be installed with an air space between them and the wall.

Each Geocoustic unit is 13½ inches square, 2½ inches thick, and weighs slightly less than 2 pounds. Roughly 2,400 holes 1/16-inch in diameter on front and back faces are precisely dimensioned for maximum absorption efficiency. Four small pads, mounted at the back, hold the unit 1/2 inch away from the ceiling or wall, creating, in effect, a resonant chamber. Either acoustic cement or mechanical fastening methods attach pads to the wall. The advantages of glass as an inorganic material are, first of all, its incombustibility, and then again its nonwarp, nonshrink, dimensionally stable characteristics. Since Geocoustic is all one material, there is nothing to delaminate under moist conditions. White or cement-block gray are the introductory colors, but units may be spray-painted any other color either before or after installation. Cleaning is a matter of soap-and-water sponging, dusting, or vacuum cleaning.

The number of patches needed to do an efficient job in a given room depends on its size and shape and on the degree of control wanted, but Pittsburgh Corning estimates that 50 would be enough in a schoolroom, at an installed cost of $125. Prices "will be competitive with other incombustible acoustical treatments."

Manufacturer: Pittsburgh Corning Corp., 1 Gateway Center, Pittsburgh 22.



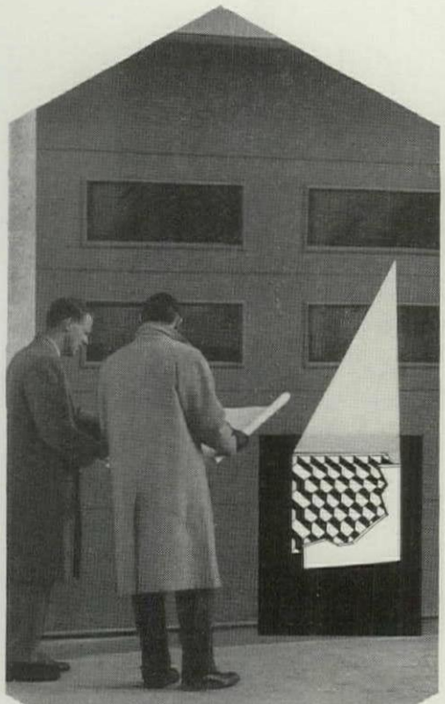


FOLDED-PLYWOOD ROOF

Thin plywood sheets glued to light lumber stiffeners form a lightweight roof and floor component called *Trofdek*, capable of clear spans up to 50 feet. Folded into troughs whose depth is proportionate to the length of the span, Trofdek can be used in three ways: as a removable concrete form, as a permanent part of the roof or floor, or by itself, as a prefabricated roof. If used as a form, reinforcing steel may be laid in the troughs and, if Trofdek is kept in place, wiring and piping may be attached to the wood. The standard width is a multiple of 16 inches, i.e., 48 inches or three troughs, but unmodular units may be ordered. Trough depths vary from 5¾ to 15½ inches.

Trofdek is widely used in Great Britain and Canada, and U.S. rights have been acquired by Plywood Fabricators Service, Inc. (an affiliate of the Douglas Fir Plywood Assn.), except for the area stretching from the Canadian border to Virginia, held by Wood Fabricators, Inc. At Plywood Fabricators Service's annual meeting, Trofdek was tested over a 40-foot clear span with a design load of 40 pounds per square foot (live and dead load combined). It failed at 123½ pounds per square foot, exceeding three times the

continued on page 56



UNION HONEYCOMB in OVERHEAD DOORS

UNION HONEYCOMB sandwich cores give exceptional strength, rigidity and durability to door panels. Impregnated paper HONEYCOMB resists moisture, decay, pests and fungi. The air sealed in each HONEYCOMB cell insulates against cold or heat. Lighter weight means lower freight costs, speedier handling—and important savings. Versatile UNION HONEYCOMB can be bonded to a wide variety of facing materials for service and eye appeal.

Send for free booklet illustrating UNION HONEYCOMB'S many uses and advantages.

UNION-CAMP HONEYCOMB
Union Bag-Camp Paper Corporation
233 Broadway, N. Y. 7, N. Y., Dept. AG

combined design load and four times the live design load of 30 pounds per square foot. Several members of PFS will fabricate the component, and one, Wood Fabricators, is doing so now at prices ranging from 75 cents to $1.25 per square foot.

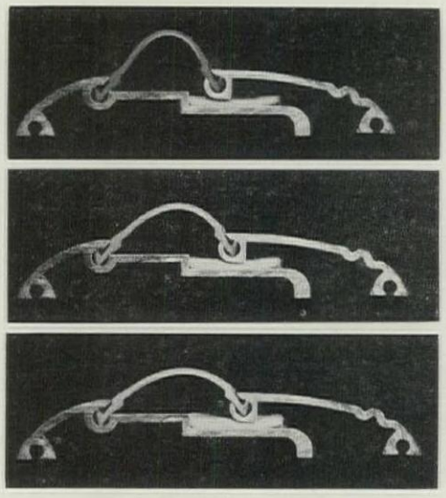
Fabricators: Wood Fabricators, Inc., 400 Portland St., Cambridge 41, Mass.; Plywood Fabricators Service, Inc., 3500 E. 118th St., Chicago 17.

BUBBLE THRESHOLD

For doors that are not quite even or that miss the sill, a weather-stripped threshold comes with an adjustable vinyl bubble to make a tight seal. If the gap is as much as 1/2 inch, the bubble is raised by moving one end of the aluminum extrusion slightly forward. Smaller gaps may be closed by lowering the bubble proportionately (see photographs).

The *Gossen #1001 Adjustable Weather Strip Threshold* is fitted to the sill, fastened loosely, adjusted to fit, and then secured. If the door shrinks or swells a little, the bubble may be moved up or down and refastened. A threshold 37 inches long costs $4.25, or $1.42 per foot for any length.

Manufacturer: Gossen Weather Strip Corp., 2030 W. Bender Rd., Milwaukee 9.



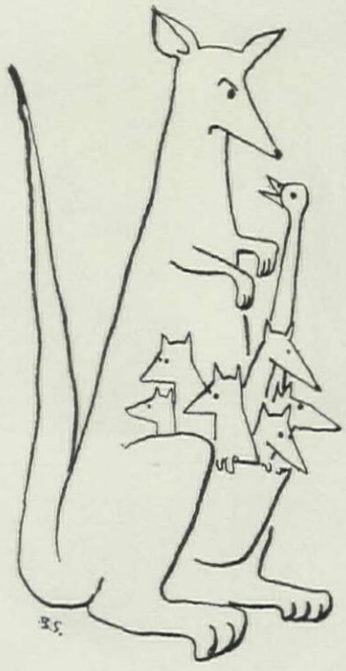
PORTABLE FLOOR

The steadily increasing use of automatic computers and electronic data processing equipment—and the resultant maze of wiring—prompted a building materials manufacturer to produce a floor which hides necessary power lines yet keeps them easily accessible for service. The *Haskelite Plymetl Free-Access Floor* extends 10 to 12½ inches above the base floor, leaving 6½ to 9 inches clear for cables, piping, and ducts. According to the manufacturer, the floor is lightweight yet sustains a uniformly distributed load of 200 pounds per square foot or a concentrated load of 1,000 pounds, with minimum vibration.

This decking system is based on the same company's Plymetl panel, 1-inch plywood wrapped in 24-gauge zinc-coated steel sheets, and topped by a 1/8-inch

Balfour rolling doors

deserve your attention



rolling steel service doors
doc-port® rolling steel pier doors
automatic rolling fire doors
pygmee® rolling counter doors
rolling steel grilles

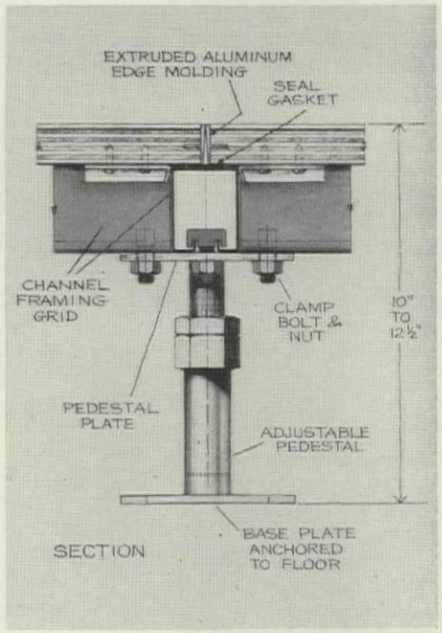
Details in Sweet's or write for catalog.

Walter Balfour & Co. Inc.
Brooklyn 22, N. Y.

floor covering. An extruded aluminum molding runs around the edge of each 36¼-inch square. Panels rest on a grid of rolled, formed channel sections. This in turn is supported by adjustable screw jack pedestals at each intersection (see drawing). For easy removal, each panel is beveled slightly and may be picked up by a suction device to expose the wiring underneath.

Components are interchangeable, except for panels which are cut to allow for cables or columns. The standard floor covering is vinyl tile, but other materials may be specified. For the standard panel size and finish, installed costs run to about $5 to $6 per square foot.

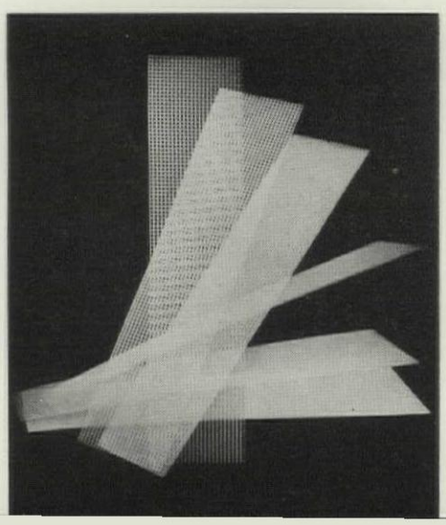
Manufacturer: Haskelite Manufacturing, Division Evans Products Co., Grand Rapids, Mich.



PLASTIC LOUVER

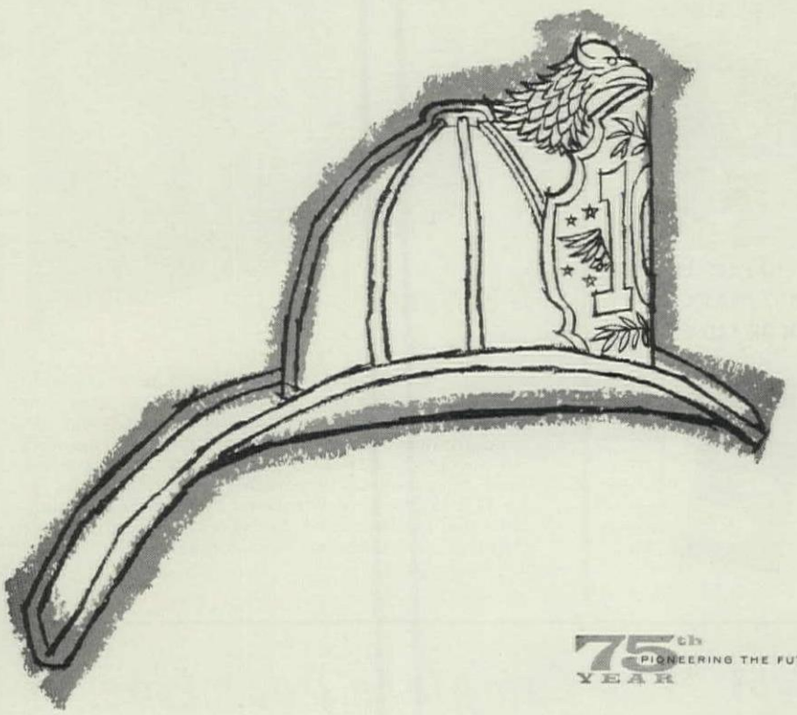
"Now you see it, now you don't" is the phrase with which the Guth Co. is introducing its *Mystic Gratelite* louver-diffuser for lighting fixtures. This diffuser resembles earlier Gratelites except that the longitudinal bars have been sharpened to points, helping the grid disappear and creating the illusion of a solid plastic sheet when seen from certain angles, even though the little cubicles are actually 3/8-inch square (see photo below). The Mys-

continued on page 58



Your client's building isn't complete without

FULL TIME FIRE PROTECTION



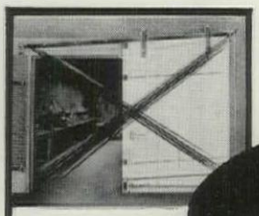
75th YEAR PIONEERING THE FUTURE

FIRES don't care *when* they happen! That's why it's important to specify *automatic* day and night fire protection with a Honeywell fire alarm system. Honeywell alarms can protect your client's building two important ways. 1. By automatically signalling the location of the fire instantly—*not* depending on someone to discover and report it. 2. By relaying the alarm to the local fire station automatically, thus saving precious minutes. This automatic fire protection is vital, not only in hospitals and schools, but in every type of building. For more information about Honeywell fire alarm systems, consult your electrical engineer or contractor; or write Minneapolis-Honeywell, Minneapolis 8, Minnesota.

Honeywell

First in Control

SINCE 1885



Old Type, Heavy, Cumbersome Fire Doors, Now Out-Moded by

D-H PyroDor®

SLIDING FIRE DOOR

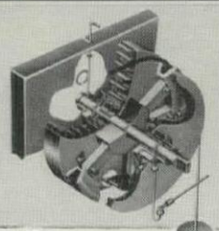
New Flush Design - New Forward Look

Underwriters Laboratories Inc. INSPECTED FIRE DOOR NO.

Class "A" Rating
3 Hour Fire Test

Temp. Rise 30 Min.
250° F. Max.

NEW! PyroMatic

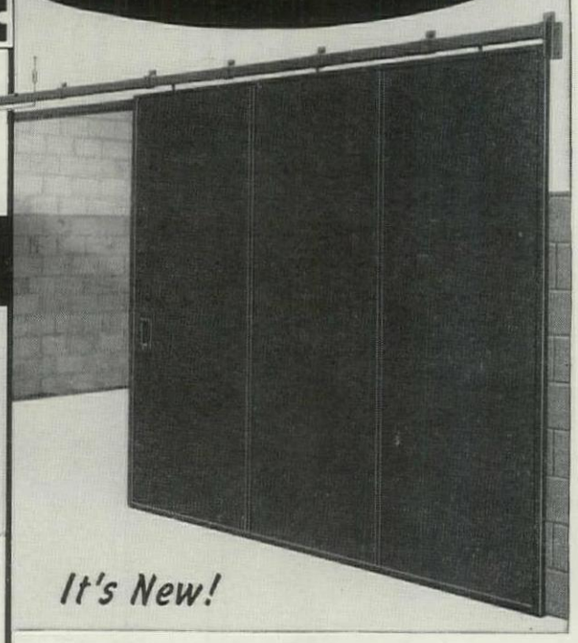


UL LABELLED AUTOMATIC DOOR CLOSER

REQUEST CATALOG



DHSL-60 or Consult Sweet's Catalog Files

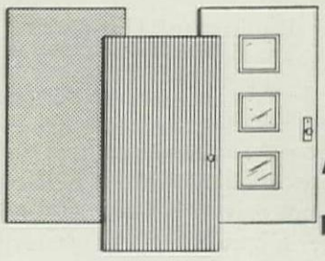


It's New!

Unique design and flush styling is now available with the new D & H Sliding PyroDor for protection of wall openings formerly shackled to a 60 year old standard door type. Now, architects and engineers can specify D & H Sliding PyroDors and have the same solid structural mineral core construction as the D & H swinging PyroDors. Modern flush design, concealed hardware and the New UL Pyromatic door closer gives the Sliding PyroDor its attractiveness — *its forward look.*

D-H "The Complete Door Line"

MINERAL CORE PyroDor® FIRE DOORS with UL Labels at no extra cost!



ECONOMICAL D-H DecorDor

ALUMINUM • WOOD • VINYL-ON-STEEL DECORATIVE DOORS

NEW! PyroDor Sliding Fire Door With Pyromatic Door Release

WRITE For New Dusing & Hunt Color Catalogs or Call your nearby D & H Distributor — Consult the Yellow Pages or Sweet's Architectural File, or Write direct.

DUSING & HUNT, Inc.

Over 50 Years Manufacturing Fireproof Doors and Metal Trim

69 LAKE STREET LE ROY, NEW YORK

tic Gratelite is injection molded of ultraviolet resistant polystyrene plastic with a light transmission factor of 75 per cent. Acoustical tests are under way but not yet complete. The Mystic Gratelite is 1/2-inch thick and currently available in sizes from 11 by 48 inches to 16 by 48 inches, which cost $8.50 and $11.50, respectively.

Manufacturer: Edwin F. Guth Co., 2615 Washington Blvd., St. Louis 3, Mo.

STICKY FOIL

Adhesive-coated aluminum foil, which forms a molecular bond when applied to wood or certain plastics, is being marketed by Alcoa. A Philip Morris subsidiary, Polymer Industries, Inc., developed the adhesive, called *Dri-Line,* which Alcoa uses. Attracted by the foil's heat-dissipating properties, two furniture manufacturers are sandwiching foil under hardwood veneer to protect tables and chairs from cigarette burns. Even though the first customers came from the furniture industry, Alcoa expects that the primary market will be in upgrading plywood. In plywood siding, for example, the foil could be a moisture barrier, insulator, light and heat reflector, and grainless paint base. Because Dri-Line refuses to adhere to surfaces other than those for which it was specifically developed, coated foil can be shipped, handled, and stored safely without sticking to itself.

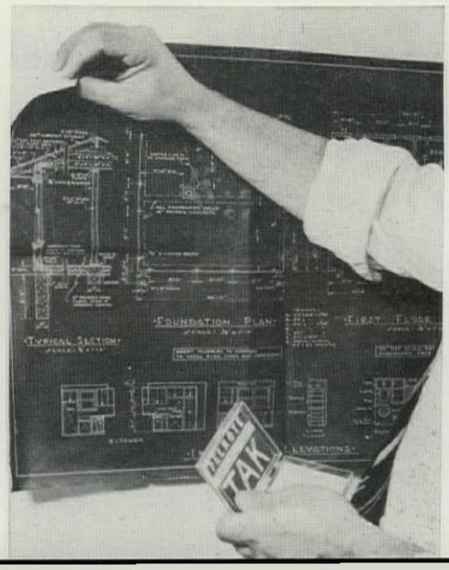
Coated foil is offered in thicknesses from 0.001 to 0.008 inches and widths up to 50 inches. Its cost varies with the foil's thickness, but generally runs about 3 cents a square foot above uncoated foil. Sample prices for 1,000 square feet of foil 0.001 inches thick: coated on one side, $30.75; both sides, $42.75.

Manufacturer: Aluminum Company of America, 1501 Alcoa Bldg., Pittsburgh 19.

PLASTIC TACK

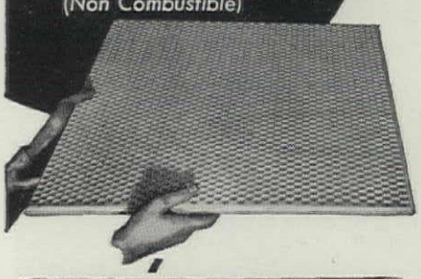
Bits of stretchy plastic hold signs, photographs, and blueprints to surfaces indoors or out. *Delkote Solid Tak* can be used over and over, as it remains pliable in all weather and does not stick to fingers. A box containing two blocks of it, and instructions for use, costs 89 cents.

Manufacturer: Delkote Inc., 1419 Foulk Rd. (Box 1335), Wilmington 99, Del.



CIRCLGRID LOUVERS

Listed UL 20
(Non Combustible)



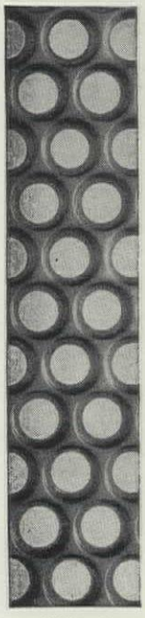


Enlarged cross section view

Nominal Sizes—2′ x 2′ x ½″
" " 2′ x 4′ x ½″
Translucencies—300-150-75 FC

With OUTSTANDING BRIGHTNESS CONTROL

Circlgrids are thermo-formed from 2 sheets of vinyl and fused electronically to a center vinyl membrane for structural strength and rigidity—yet weigh only 3½ oz./sq. ft. Many leading lighting equipment manufacturers are licensed to sell and distribute Circlgrid.



CIRCLGRID ADVANTAGES

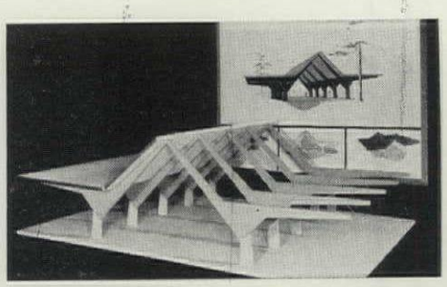
- Listed UL 20 (non-combustible)
- Circular openings assure non-glare illumination and promote free air circulation
- Safely installed under sprinklers
- Weight-3½ oz./sq.ft.
- Cut-off 45°-45°
- Can be contoured to fit irregular areas
- Outstanding brightness control

Write for sample and technical data.

circ vac plastics

BOX 655-G • ERIE, PA.

Illuminating Engineers and Specialists in Vacuum Forming and Electronic Welding

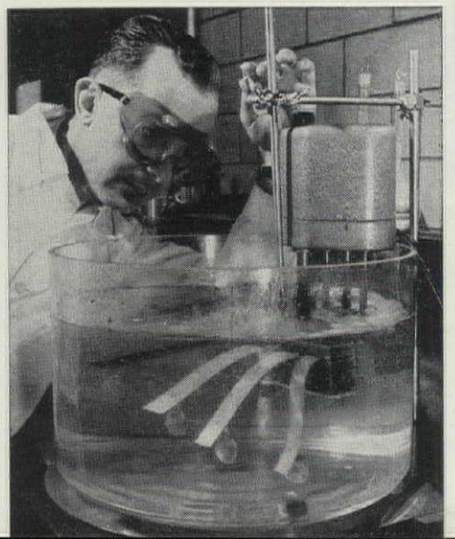


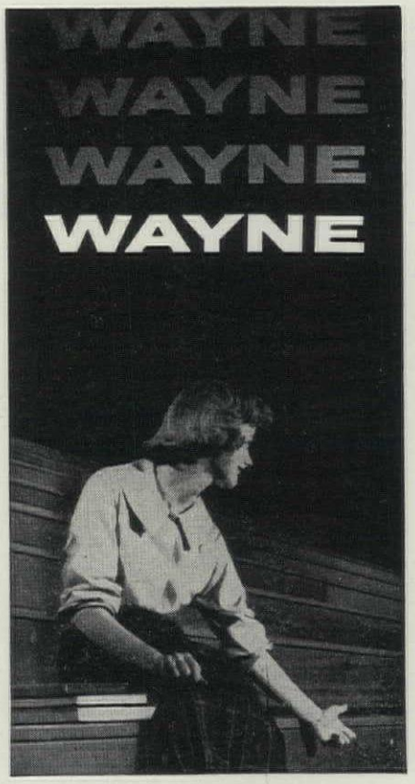
▸ A play shelter in Tacoma, Wash. will be the first use of the delta frame, a plywood component designed by Robert Waring, Douglas Fir Plywood's staff architect (see model photo above). In combination with stressed skin panels and other components, the delta frame is adaptable to many building types and design variations.

▸ By drawing molten glass in vertical sheets untouched by any mechanical device to mar the surface, Pittsburgh Plate Glass claims to have a superglass remarkably free from distortion. It will be called *Premium Pennvernon* and will be offered in standard thicknesses of window and heavy sheet glass.

▸ New furniture shapes may be forthcoming as a result of U.S. Rubber's mechanical upholstering process, *U.S. Raval*, which shapes base, foam cushion, and upholstery fabric into a one-piece cushion or chair back. Though not expected to eliminate hand upholstery, this process will add new shapes to formed cushions. Four furniture manufacturers are offering thinly padded stacking and side chairs made by this process, but plump-cushioned armchairs are planned.

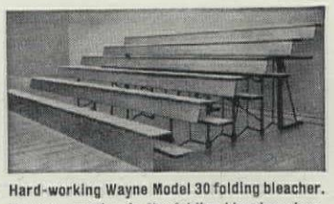
▸ Weighted plastic strips tested in 180-degree water illustrate the nonsag property of B. F. Goodrich Chemical Co.'s *hi-temp Geon* (left strip), a polyvinyl dichloride. The new vinyl's heat resistance—it withstands temperatures 60 degrees higher than conventional rigid vinyls—leads its developers to predict wide acceptance in hot-water plumbing and hot-acid piping. In plumbing, it could be used as prefabricated kitchen and bathroom piping, and at a cost competitive with that of other piping materials. Hi-temp Geon is in pilot plant production, and Goodrich is working with several pipe manufacturers who will do the actual manufacturing, using Goodrich resin materials. END



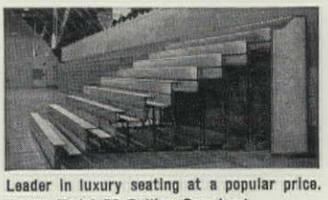


WAYNE INDOOR SEATING SYSTEMS

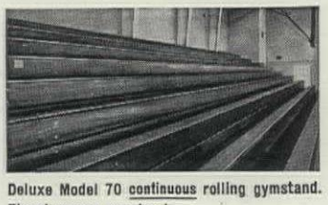
work wonders on any school budget



Hard-working Wayne Model 30 folding bleacher. Economy seating in the folding bleacher class.



Leader in luxury seating at a popular price. Wayne Model 50 Rolling Gymstand.



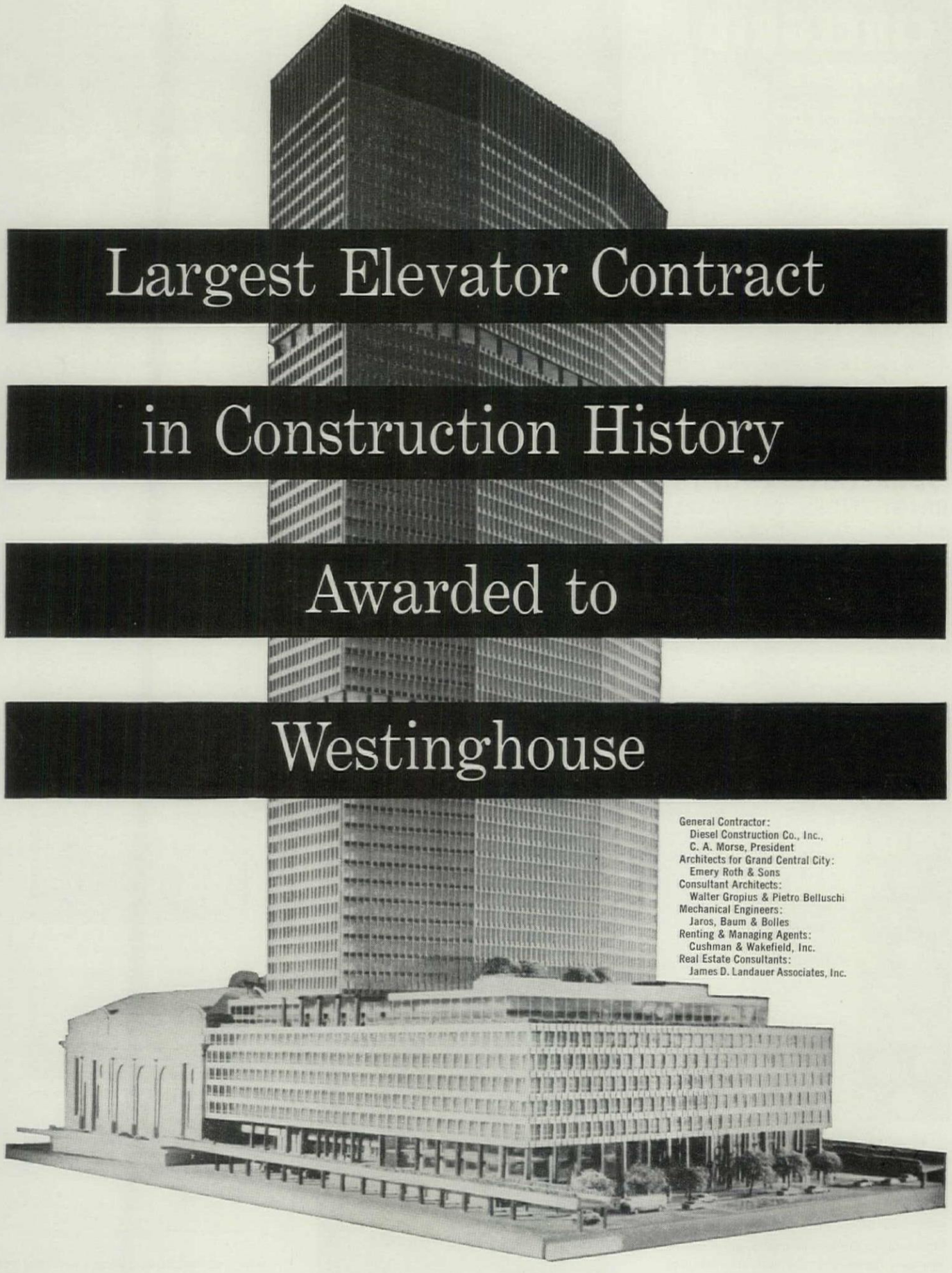
Deluxe Model 70 continuous rolling gymstand. Finest money can buy!

NEW 1960 CATALOG

Only Wayne offers three basic types! More value, better engineering, finer performance in each . . . from the world's largest manufacturer of spectator seating. Write for big, all new 1960 catalog today.

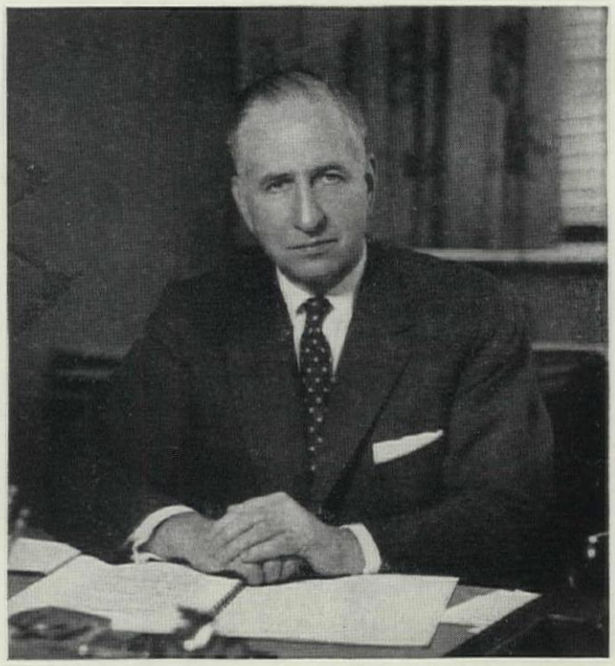
WAYNE IRON WORKS • WAYNE, PA.

Largest Elevator Contract in Construction History Awarded to Westinghouse



General Contractor:
Diesel Construction Co., Inc.,
C. A. Morse, President
Architects for Grand Central City:
Emery Roth & Sons
Consultant Architects:
Walter Gropius & Pietro Belluschi
Mechanical Engineers:
Jaros, Baum & Bolles
Renting & Managing Agents:
Cushman & Wakefield, Inc.
Real Estate Consultants:
James D. Landauer Associates, Inc.

Grand Central City to have world's fastest elevators



"Scheduled for completion in 1962, Grand Central City will be the largest office building in the world, serviced by 65 Westinghouse operatorless elevators and 21 electric stairways. This monumental, 59-story edifice will have a 'population' of 25,000 working persons. In addition, 250,000 transients will pass daily from the main concourse of Grand Central Terminal to the main lobby of Grand Central City.

"To provide the fastest and most efficient *vertical* transportation for the continuing flow of people, we chose Westinghouse for this massive job—a name in which we have the highest confidence based on past performance.

"With the installation of its elevators in Grand Central City, Westinghouse will establish still another 'first' in the elevator industry. For the first time, elevators in a high rise bank will travel at the rate of 1,600 feet per minute—the fastest in the world.

"Both we and Westinghouse are proud of this Grand Central City contract. These electronic, operatorless elevators reflect Westinghouse skill in engineering automatic elevator controls to carry great numbers of people up and down—without the necessity of human supervision.

"Future tenants of Grand Central City can be assured of the finest vertical transportation available anywhere."

Erwin S. Wolfson
Chairman of the Board
Diesel Construction Co., Inc.

WESTINGHOUSE ELEVATORS AND ELECTRIC STAIRWAYS

YOU CAN BE SURE...IF IT'S Westinghouse

J-98782AA

TUNE IN WESTINGHOUSE-CBS TV-RADIO COVERAGE, PRESIDENTIAL CONVENTIONS, JULY 10-29

Building executives are cordially invited to see a 30-minute, behind-the-scenes elevator demonstration—the WESTINGHOUSE PRE-INVESTMENT EYE-OPENER. Because the selection of an elevator system is a key decision . . . a major capital investment . . . it deserves your personal attention and approval. As a building owner or manager, it pays well to investigate before you invest. Make arrangements to experience this revealing demonstration by calling the Westinghouse Elevator Division Sales Office in your city.

AirWall

THE WALL OF VERSATILITY

the first and



PORTABLE—VERSATILE...

AIRWALL is a lightweight, completely portable wall that can be utilized anywhere it is desirable to divide valuable floor areas. Weight, approximately 1.8 lbs. per square foot. No floor or ceiling attachments are required. Each panel is simply set in position and the AIRSEAL is inflated providing a rigid wall that will stand indefinitely. Operation is completely pneumatic without messy hydraulic mechanisms.

FLEXIBLE...

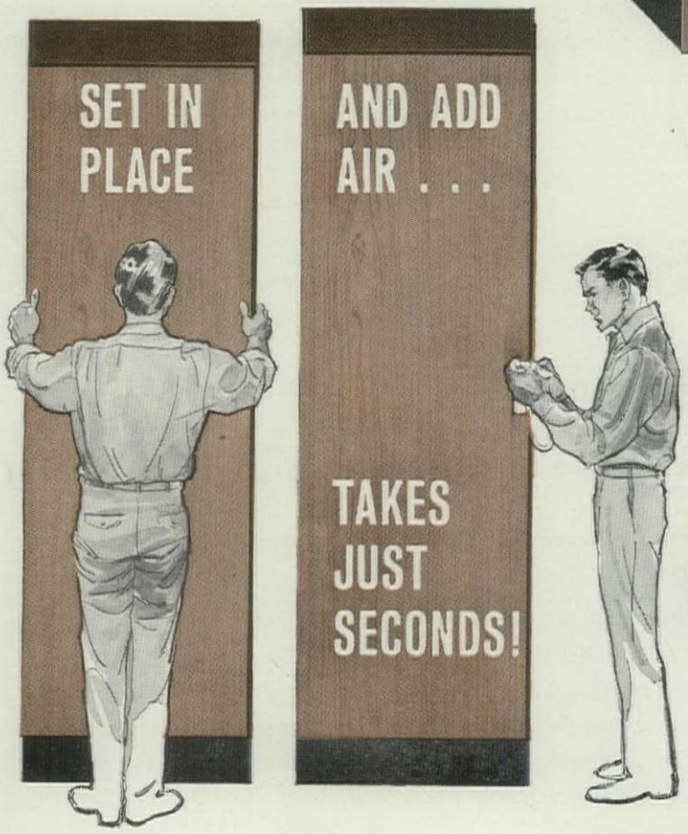
AIRWALL is equally practical for use as semi-permanent walls or walls that are constantly being changed to meet varied space requirements. Individual panels are 36″ wide, heights to 12′... the tongue and groove joints have been designed so that the walls may be installed in a straight line or in a curved arrangement. "AIRWALL" may be supplied with door panels, 42″ wide; pass-through panels; window panels and interchangeable filler panels.

ECONOMICAL...

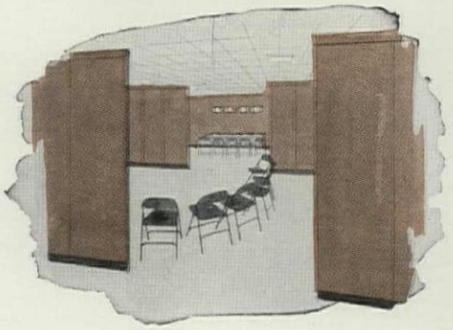
AIRWALL is economical to purchase and requires no installation or erection costs. AIRWALL is classified as furniture and fixtures and for tax purposes does not become an integral part of the building, therefore it is not depreciated over lease term or building life. If you move, take it with you. AIRWALL will reduce remodeling and redecoration costs through the elimination of permanent, non-bearing walls.

SOUND REDUCING...

AIRWALL provides a tight seal at the floor and ceiling level to offer a sound control never before possible with a portable wall. This special seal, patent pending, combined with AIRWALL's unique construction provides a portable wall that offers approximately the same sound retarding qualities as a permanent wall with 2 x 4 studs, lath and plaster. When functions of a "noisy" nature are to take place in adjoining areas a double AIRWALL with a 6″ air space between walls will assure the elimination of sound interference between areas.



APPLICATIONS ARE UNLIMITED



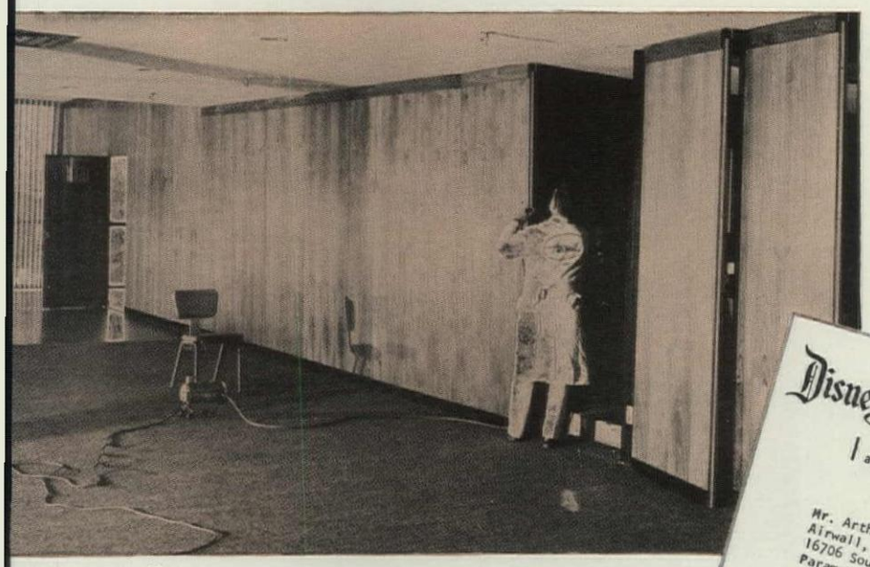
IDEAL FOR HOTELS... OFFICES...

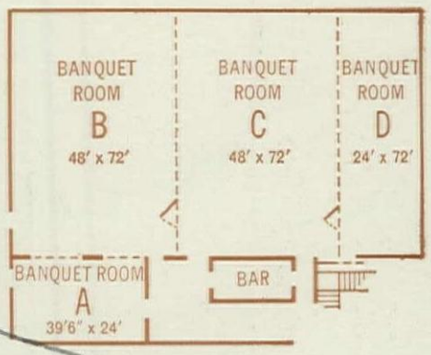


WIDE VARIETY OF FACING FINISHES AVAILABLE . . .

AIRWALL panels may be finished with your choice of material to create dramatic interiors that are fresh and original. Select from modern vinyls, wear-resisting plastics and beautiful hardwood veneers with a fine furniture finish. For interesting decorating variations panels may be finished with one material on one side and a different pattern of the same material on the other . . . permits an instantaneous change of decor.

only truly portable wall!





AirWall at the Disneyland Hotel

This photo shows one of the AIRWALL s used in the beautiful Disneyland Hotel, Anaheim, California. The AIRWALL s permit this hotel to quickly and easily set-up various sized rooms to accommodate groups of 25 to 1000 people. In one instance the AIRWALL s were used to build a room within a room to provide dressing facilities for models during a style show.

Disneyland Hotel
the OFFICIAL HOTEL at the "MAGIC KINGDOM"
THRU DISNEYLAND ENTRANCE • ANAHEIM, CALIF.

Mr. Arthur Imbrecht
Airwall, Inc.
16706 South Garfield
Paramount, California

February 19, 1960

Dear Art:

I believe it is time to tell you how valuable your wall in the Gourmet banquet area has been to the Hotel convention business. Because of Airwall's great flexibility and ease in handling, the Restaurant has been able to quickly adapt its 10,000 square foot banquet area to accommodate groups of any size.

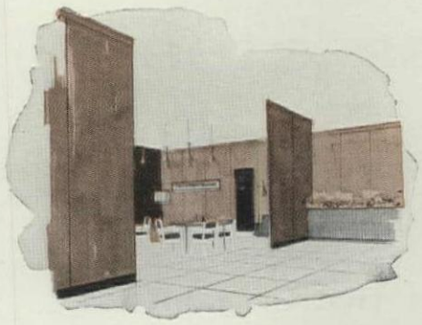
If you feel that our experience would be valuable to anyone considering this type of room dividers, do not hesitate to use our name and experience in recommending them.

Very sincerely yours,

John S. Blankenhorn
Ass't. to Exec. Vice Pres.
Wrather Hotels, Inc.

1441 WEST STREET • ANAHEIM, CALIFORNIA
TELEPHONE KEYSTONE 5-8171 OR MADISON 5-1369

HERE'S WHAT ONE SATISFIED CUSTOMER HAS TO SAY:



AND RESTAURANTS

If you sell to Hotels, Restaurants, Funeral Parlors, Commercial and Industrial Office Buildings, this product offers an excellent sales opportunity . . . there are still many outstanding sales territories available. Write today.

A-W Representatives are located in all principal cities. Write today for complete information and the name of your local AIRWALL Sales-Engineer.

AIRWALL offers architects, building owners, managers and anyone else involved in the problem of dividing space and sound an entirely new flexibility of design. For here is a wall that can be shifted at will—in a matter of minutes—without tools or special craftsmen. Offers new horizons in design possibilities for the construction of all types of buildings. Truly, the applications for AIRWALL are limited only by your most wild imagination.

AirWall Inc.

16704 S. GARFIELD AVENUE, PARAMOUNT, CALIFORNIA
A SUBSIDIARY OF
RICHARDS-WILCOX MFG. CO.
AURORA, ILLINOIS



stainless steel

No other metal has the strength, beauty and versatile qualities that serve you so well today and promise so much for tomorrow.

There is nothing like stainless steel for HOMES AND HOME PRODUCTS

McLouth Steel Corporation,
Detroit 17, Michigan

Manufacturers of high quality Stainless and Carbon Steels

Look for the **STEELMARK** on the products you buy.

Stainless Steel

McLOUTH STAINLESS STEEL

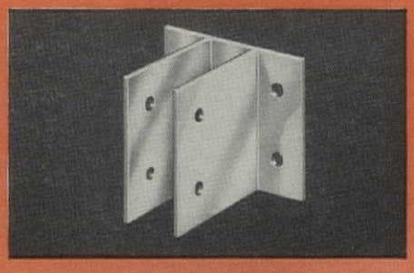


the proved porcelain

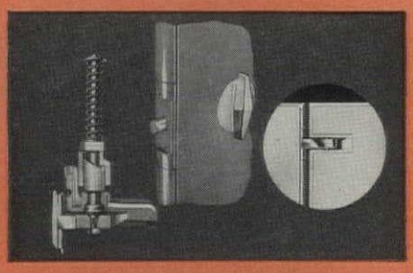
PORCENA

for schools, public buildings, deluxe installations

You can be confident of beauty, of long-run economy, when you select Sanymetal Porcena porcelain enamel on steel as the material for toilet compartments. In 24 years of experience, and thousands of Porcena installations, there has not been *one* failure due to material or design. The secret of this record lies in the quality porcelain, the strong hardware, and the correct handling and assembly technique which Sanymetal uses. For an example of results, ask us about the case of one large school system, where vandalism or deterioration causes the replacement of toilet compartment panels (of another material) at the rate of one per calendar day, but where a Sanymetal PORCENA installation has stood up, year after year, without damage.



Sanymetal uses extra strong hardware especially designed for porcelain, such as these brackets designed to properly carry the weight of large panels and prevent sagging.



DELUXE, Porcena installations should have hardware that is beautiful as well as strong. Flush design of Sanymetal hinges, hinge brackets, latches, etc., gives you the clean, attractive appearance you want.



THE NAME PLATE IDENTIFIES EVERY SANYMETAL INSTALLATION

Sanymetal®

PRODUCTS COMPANY, INC.

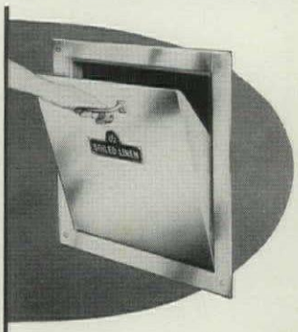
1710 Urbana Road, Cleveland 12, Ohio

Representatives in principal cities

In Canada: Westeel Products, Ltd., Montreal, Toronto, Winnipeg

Another FIRST for WILKINSON

Electrically Interlocked CHUTE DOORS



Wilkinson electrically interlocked chute doors automatically lock when any one door is opened. When this door closes and after a predetermined time delay, all doors are unlocked.

Electrical interlocking prevents the use of more than one intake door at the same time in multi-story buildings.

The advantages! First, it eliminates drafts when chute doors are opened—an important sanitary feature. Second, it prevents loading from two, three, or more floors at once—a decided safety feature.

This is another exclusive feature for Wilkinson Chutes . . . another reason for specifying Wilkinson.

See our catalog in Sweet's Architectural File.

WILKINSON CHUTES, INC.

619 East Tallmadge Ave., Akron 10, Ohio

Wilkinson WAC Inc.

HALLMARK OF QUALITY

CUSTOM

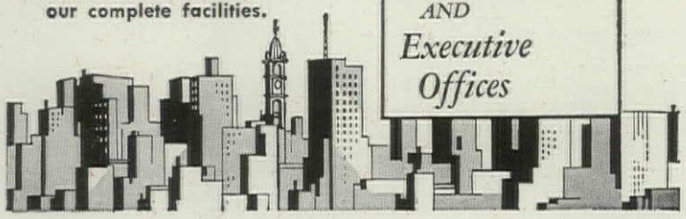
McCLOSKEY GRANT *Corporation*

Philadelphia 32, Pa.

INTERIORS *for Stores, Banks, Restaurants AND Executive Offices*

Creators of custom cabinetwork and special metalwork. Special designs produced to your specifications.

Write for information on our complete facilities.



SCR® DIMMERS*

ONLY FROM KLIEGL!

®REGISTERED TRADE MARK
*PATENTED

From discovery to distribution it's a Kliegl innovation. SCR® Dimmers* are available from only one source . . . Kliegl Bros.

SCR® Dimmer* capacities have recently been expanded to include 3KW, 6KW, 10KW and 12KW units.

The patented back to back circuit, feather weight and job tested reliability found in SCR® Dimmers* are outstanding examples of the imagination, forward thinking and engineering know-how that is found in every Kliegl product . . . products which have made Kliegl "The Great Name In Lighting".

For complete information on SCR® Dimmers, write*

lighting

KLIEGL BROS.

UNIVERSAL ELECTRIC STAGE LIGHTING CO., INC.

321 W. 50th ST., NEW YORK 19, N. Y.

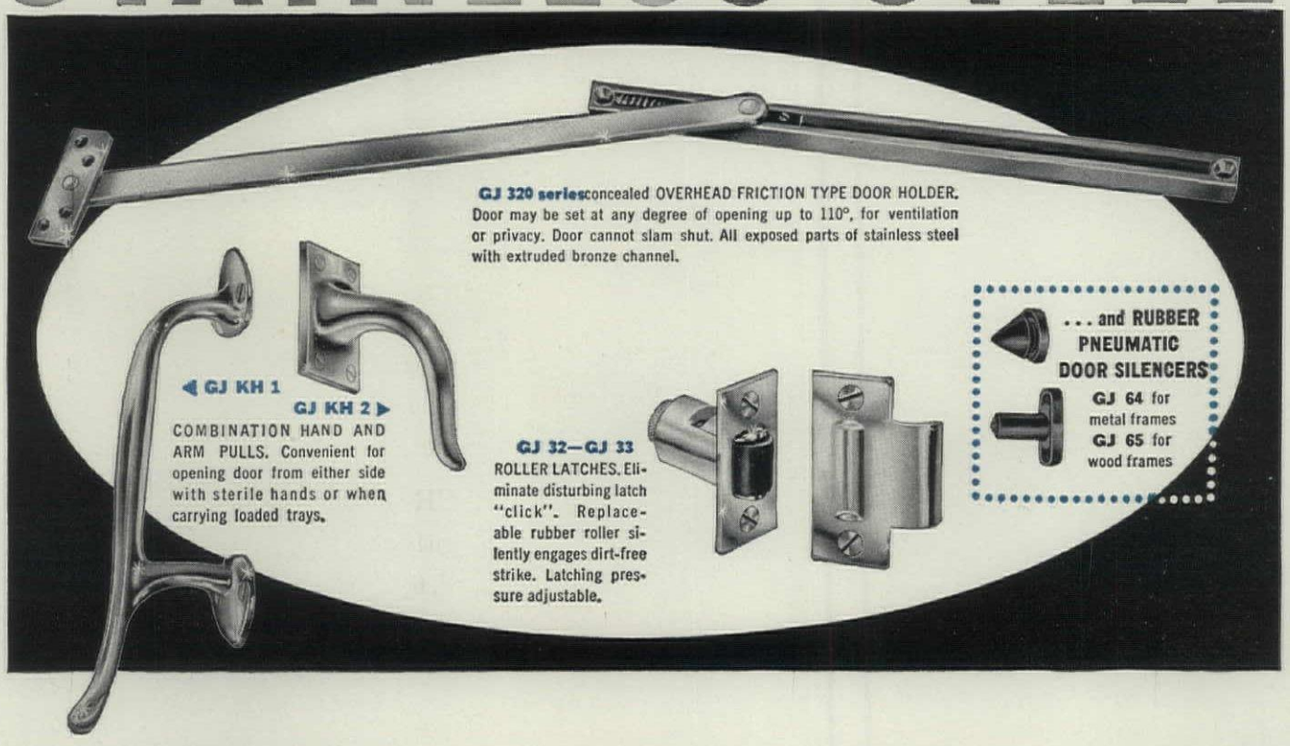
ORIGINATORS AND MANUFACTURERS OF KLIEGLIGHTS

HOSPITAL PATIENT ROOM DOOR CONTROL HARDWARE

now in

GJ *clinically clean*

STAINLESS STEEL



Made to GJ high standards of quality.

Non-porous, unusually strong and durable.

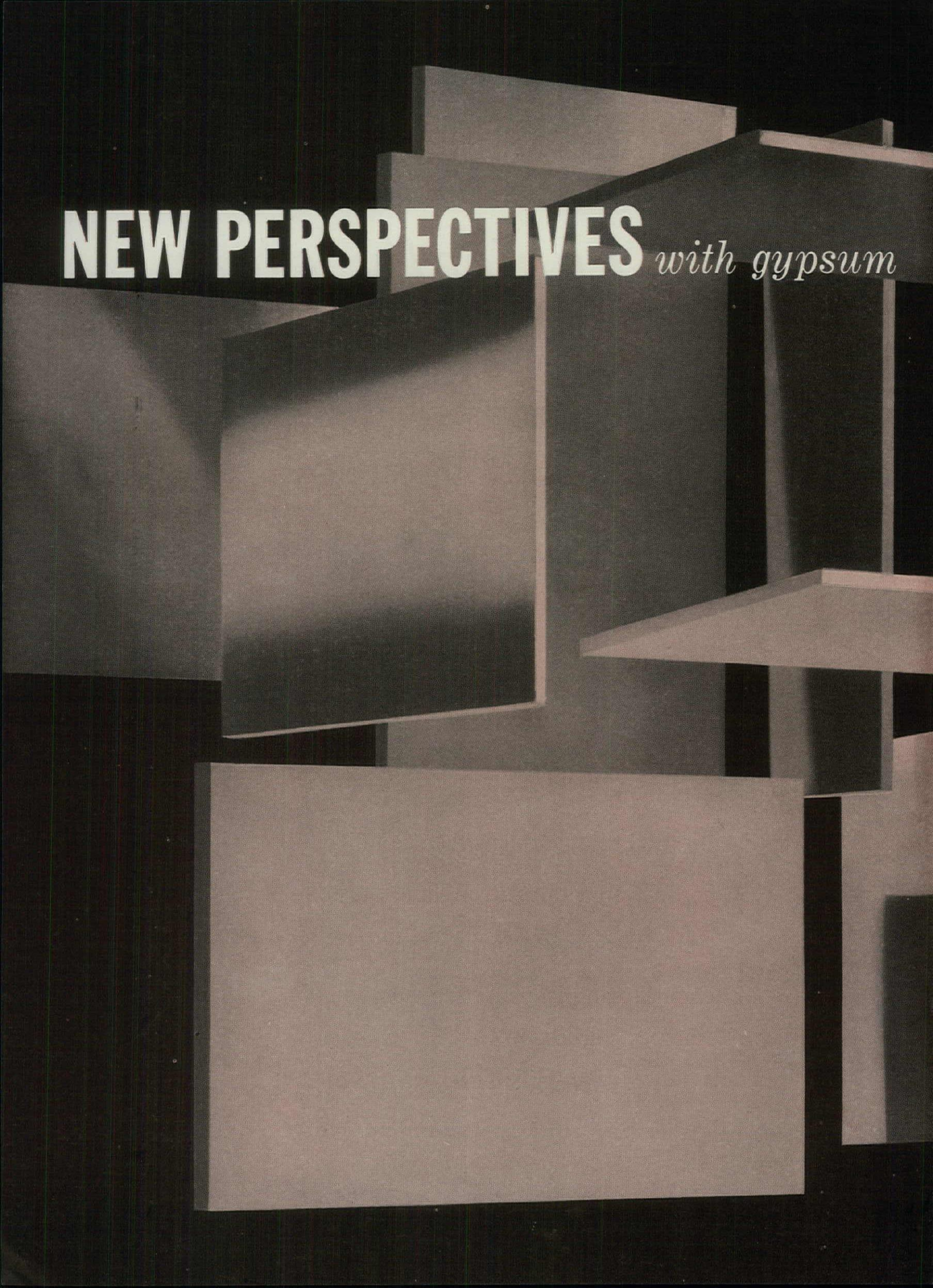
Will not tarnish, corrode or rust.

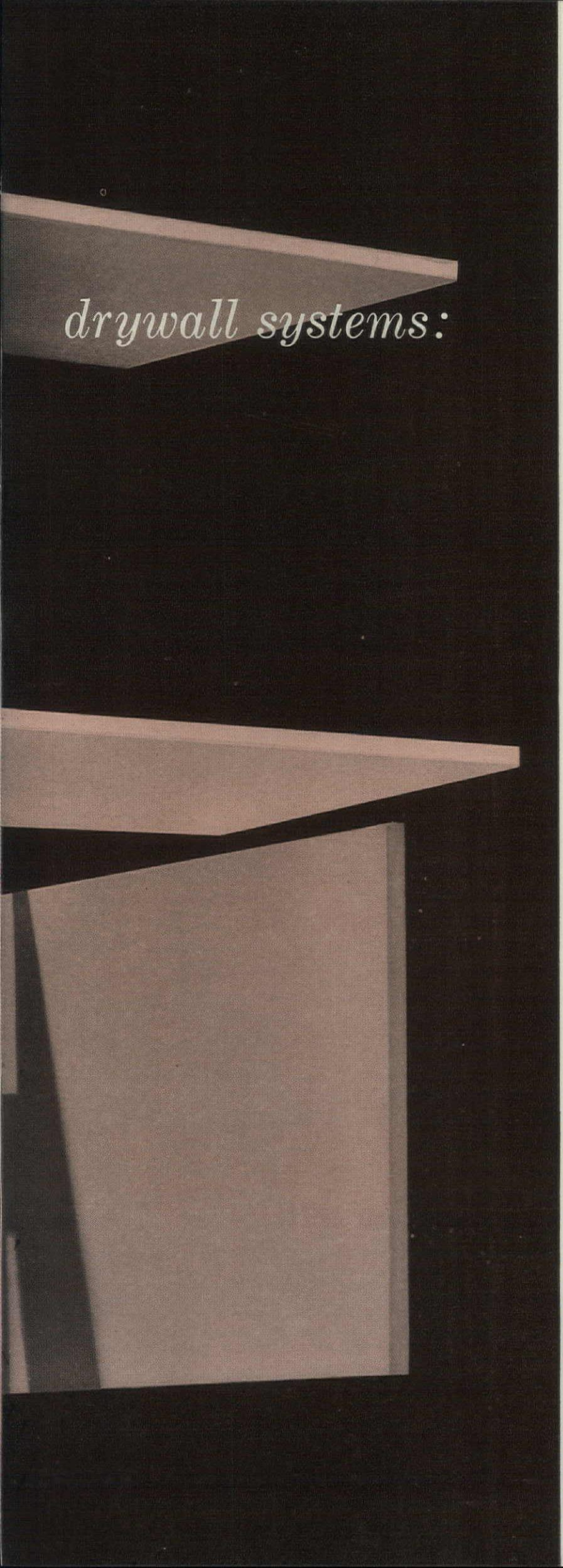
Your specification means more when you write in **". . . shall be GJ"**

PUTS THE STAFF IN SILENT CONTROL . . .



GLYNN·JOHNSON CORPORATION
4422 north ravenswood ave. • chicago 40, ill.


NEW PERSPECTIVES with gypsum



NEW

economy...
performance...
flexibility

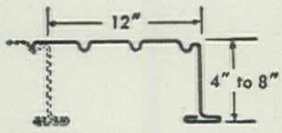
for industrial, institutional, and commercial construction

Announcing the First Complete Group of Gypsum Drywall Systems

United States Gypsum introduces five new gypsum drywall systems specifically designed for non-residential partition, ceiling and wall construction. Their low material cost and reduced erection time cut construction cost. Their factory controlled uniformity assures increased fire and sound control—greater strength and durability for longer life and lasting beauty! They open a new era in economy and performance—open the door to newer and more challenging design possibilities for you. For further information, see your gypsum drywall contractor, your U.S.G. sales representative, or write United States Gypsum, Dept. AF-02, 300 W. Adams St., Chicago 6, Ill.

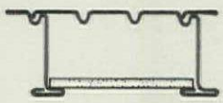
UNITED STATES GYPSUM

the greatest name in building

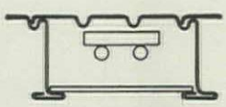


T-STEEL — New! Galvanized. For clear spans to 32'0". Adaptable to acoustical and flush, luminous ceiling treatments. Provides superior diaphragm to transmit seismic and wind loads.

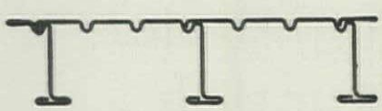
Ceiling Treatments with T-Steel Deck



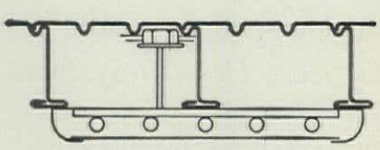
Standard Tile or Board



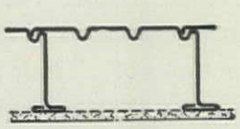
Corrugated Diffuser



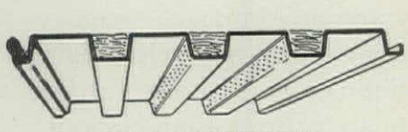
Exposed (Underside painted for increased reflection)



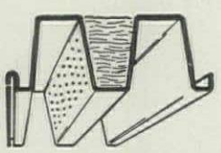
Surface-mounted Fixture



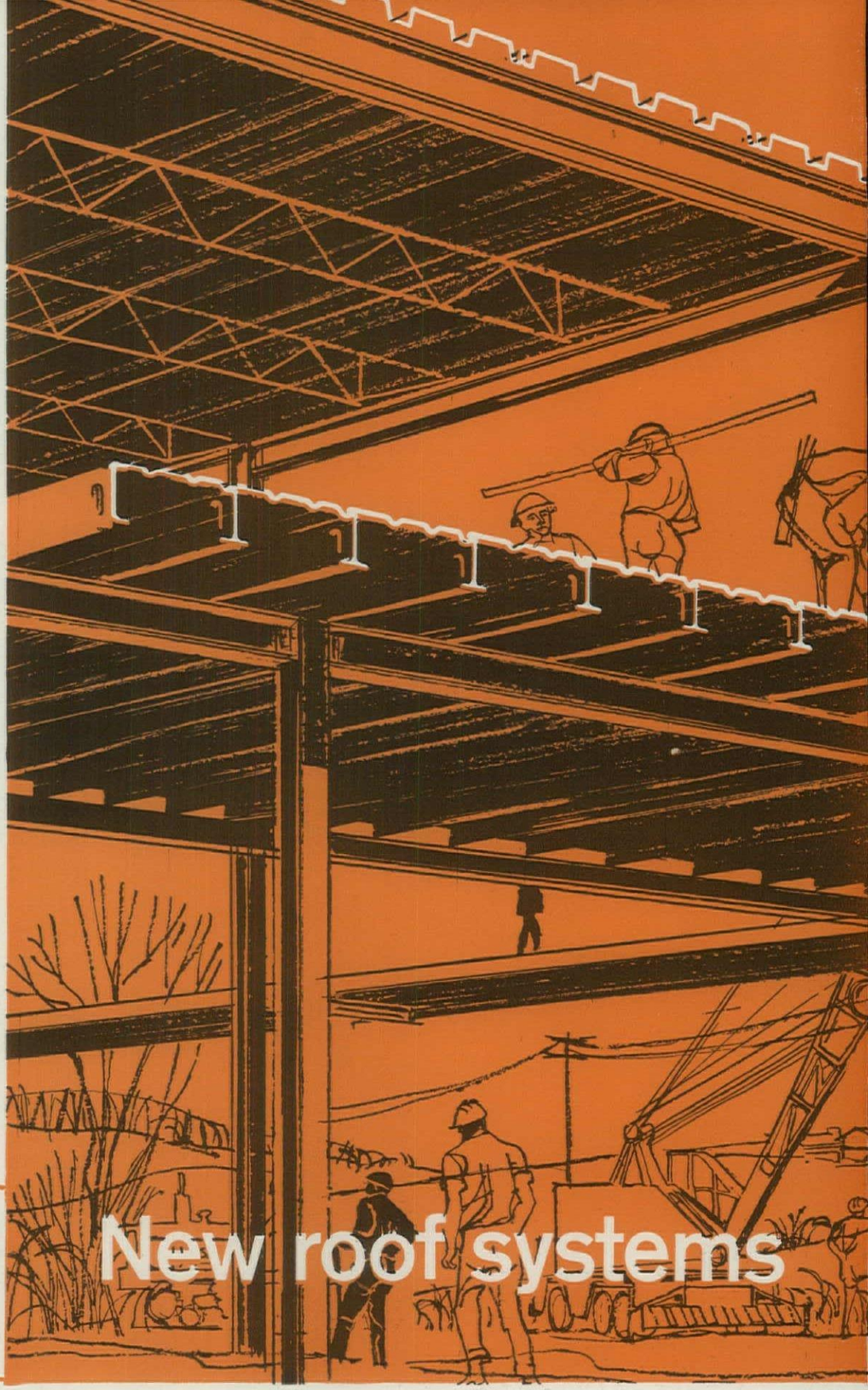
Lath-and-Plaster Fireproofing



TYPE B ACOUSTIDECK
For purlin spacings from 6' to 10'.
Uses minimum of 1" rigid insulation board.



TYPE C ACOUSTIDECK
For purlin spacings from 10' to 24'.
Uses minimum of 1½" rigid insulation board.



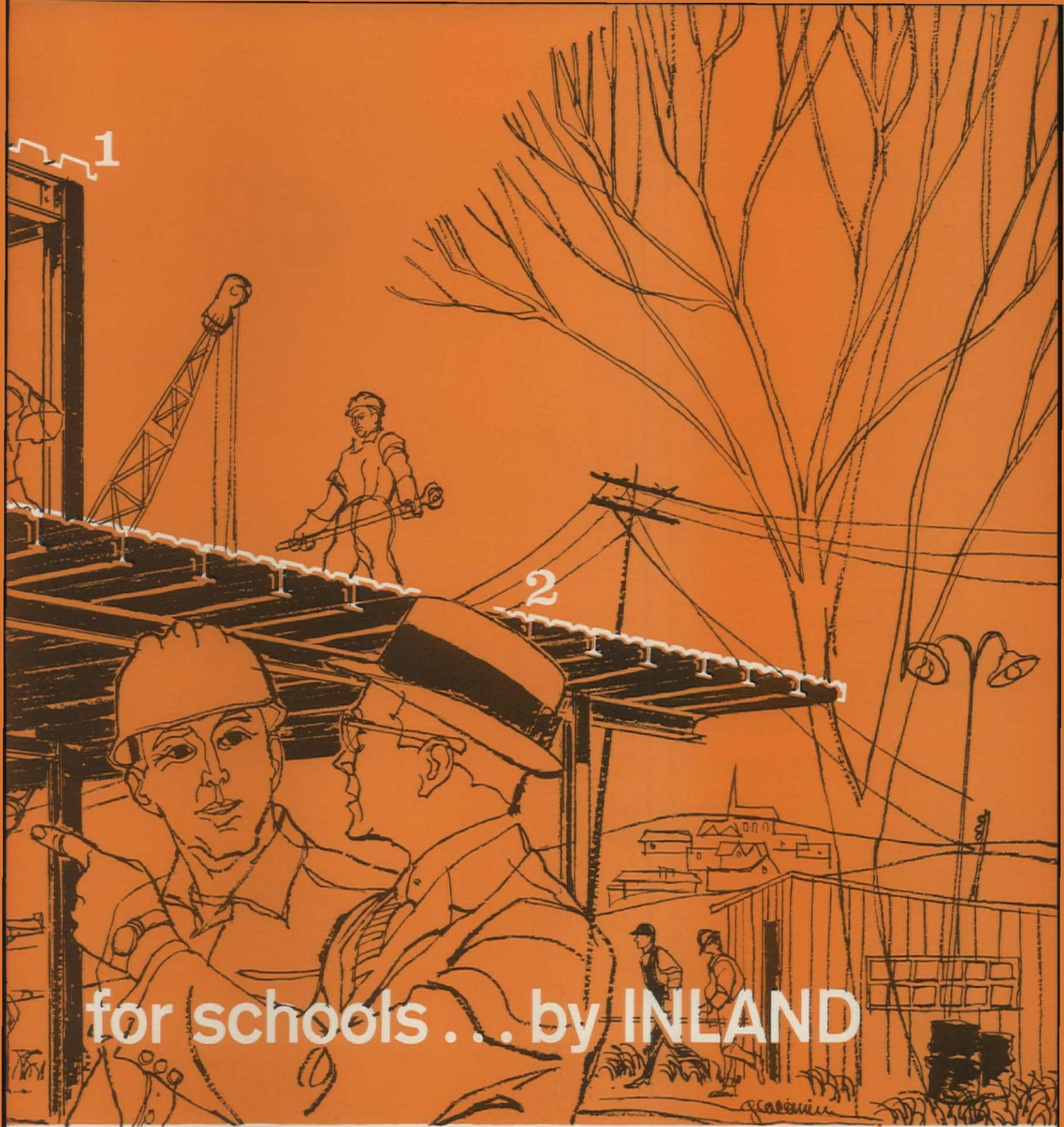
New roof systems

Complete structural systems that broaden your latitude in planning ceilings, lighting, acoustics — within realistic budget boundaries

1. Acoustideck for gymnasiums, other activity areas

Two-in-one panel combines steel roof deck and acoustical ceiling. Provides acoustical treatment that is considerably less subject to damage than other types — Noise Reduction Coefficient of .70. Installed by welding in the same manner as regular steel deck.

Acoustideck has all the additional advantages of steel-deck construction: It is erected fast — in any weather that a man can work. Its Bonderized baked-enamel prime finish cuts painting costs in half. The interesting ribbed underside can be left exposed as an attractive ceiling.



2. New Inland T-Steel Roof Deck for clear-ceiling classrooms

Especially suitable over classrooms of 26′ to 32′ spans — or other areas where you want a large expanse of unbroken ceiling surface for a contemporary feeling.

You can provide practically any acoustical treatment — T-Steel permits installation of acoustical tile at an economy no other roof system can match. You can provide a flush, luminous ceiling — or you can leave the underside of T-Steel exposed and painted.

T-Steel deck provides a superior diaphragm to resist seismic and wind thrusts . . . as proved by full-scale shear tests conducted by independent engineering firms.

Write for catalogs 240, 241, and 246 or See Sweet's, sections 2c/Inl and 11a/In for full information on T-Steel and Acoustideck. Inland Steel Products Company has developed a force of trained sales engineers who are capable of giving you the benefit of their diversified experience on specific problems. Write or call your nearest Inland office.

member of the INLAND steel family

ENGINEERED PRODUCTS DIVISION

INLAND STEEL PRODUCTS COMPANY

Dept. G, 4033 West Burnham Street
Milwaukee 1, Wisconsin

CLEVELAND, DALLAS, DENVER, DETROIT, KANSAS CITY, LOS ANGELES, MILWAUKEE, MINNEAPOLIS, NEW ORLEANS, NEW YORK, ST. LOUIS

MAKE SAFE BUILDINGS *SAFER* with

Beam-O-Matic

AUTOMATIC EMERGENCY LIGHTS



for commercial buildings, retail stores, institutions factories . . . and other places of public assembly

No building is completely safe without protection from the hazards of sudden blackouts. Leading industries have adopted BIG BEAM for their emergency lighting needs. When regular lights fail, BIG BEAM goes on instantly and automatically. Provides hours of bright, safe illumination, until power from circuit is restored. BEAM-O-MATIC recharges itself automatically.

BEAM-O-MATIC shown above is one of a variety of BIG BEAM models available. Whichever BIG BEAM you select, you are providing the utmost in dependability.

For complete information, write today to 9475

U-C-LITE MFG. CO. **1042 W. Hubbard St., Chicago 22, Ill.**

Canada: Bernard Marks & Co., Ltd., 70 Claremont Street, Toronto 3, Ontario

NIBROC® TOWELS

for Quality, Beauty, Utility, Economy

FACTS

About the newest in *Washroom Cabinets* and *Paper Towels* for industrial and commercial installations.

SEE

NIBROC Towel Specification Data in Sweet's Architectural File—27E-BRO.

WRITE

For useful A.I.A. File and detailed information about the complete line of NIBROC Towels and Cabinets. Dept. AF-07

Another Quality Product Of

BROWN COMPANY

General Sales Offices: 150 Causeway Street, Boston 14, Mass.
Mills: Berlin & Gorham, N. H.

CHF

Another functional-flair design for dining! The price makes it most practical to enjoy its smart linear look . . . carefree quality.



CHF No. T-948-28 BASE
A cast base with Black Baked Finish, Black Baked Finish column $24.20 List; Cast base with Black Baked Finish, Chrome column $23.44 List.

(CHF Top Shown, Plastic BV Metal Edge)

CHICAGO HARDWARE FOUNDRY CO

SHOWROOMS IN ALL PRINCIPAL CITIES

NORTH CHICAGO • ILLINOIS

MILLIONS OF FEET OF CELOTEX® RIGID ABOVE-DECK ROOF INSULATION...AND



"NO FAILURES EVER!"

30 years of experience! That's what's behind this unsolicited testimonial . . . job-tested assurance from one of the leading roofers in southwestern Missouri . . . proof again that rigid above-deck insulation by Celotex is "best for balanced roof performance!"

QUEEN CITY

1630 W. WALNUT PHONE UN 4-7202
SPRINGFIELD, MISSOURI

QUEEN CITY MEANS QUALITY

Roofing & Contracting Co.

October 26, 1959

Celotex Corporation
7 North Brentwood Blvd.
St. Louis 5, Missouri

Gentlemen:

During these years of new products and fantastic claims as to their performance, we feel it in order to commend a product that has been tried and found satisfactory over the years.

We have been applicators and suppliers of Celotex Roof Insulation for approximately thirty years and have used millions of feet of it on buildings of all types and under all conditions, and not one time have we had a failure. This is a record that few products can boast of and we can, without hesitation, recommend it as one of the finest products on the market.

Yours truly,

QUEEN CITY ROOFING &
CONTRACTING CO.

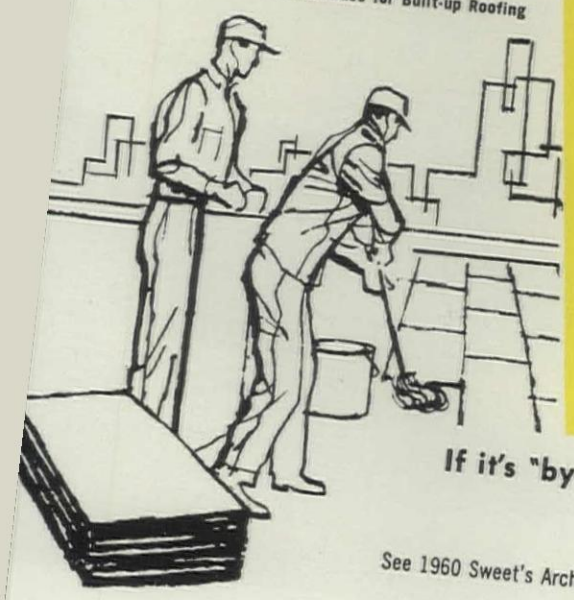
R. P. Stiefvater

R. P. Stiefvater
President

RPS/jb

RIGID ABOVE-DECK ROOF INSULATION BY CELOTEX ASSURES:

1. Fuel Savings
2. Power Savings
3. Heating Equipment Savings
4. Condensation Control
5. Structural Stability
6. Ideal Base for Built-up Roofing

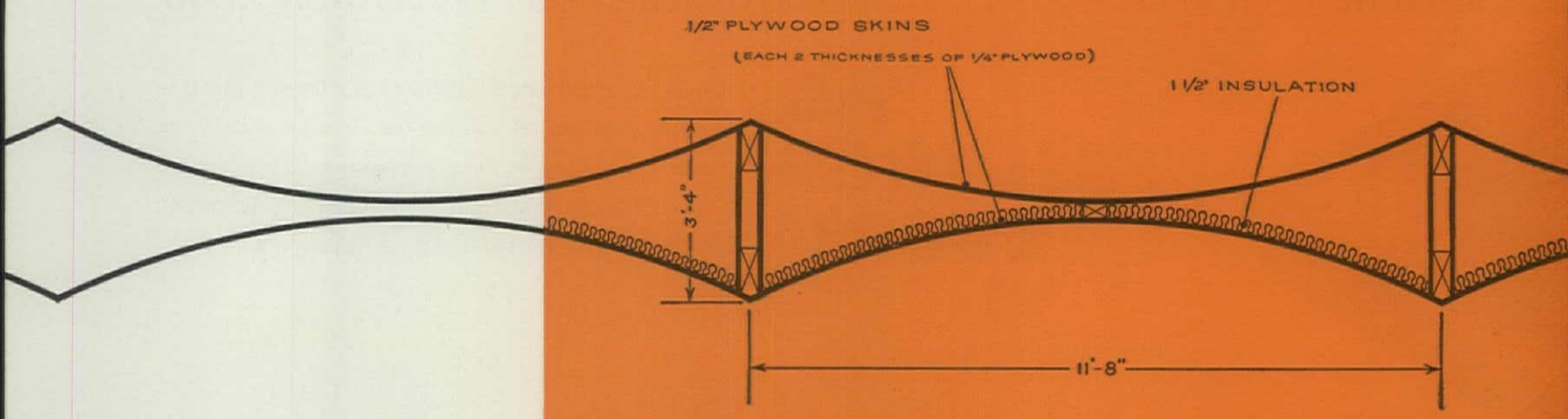


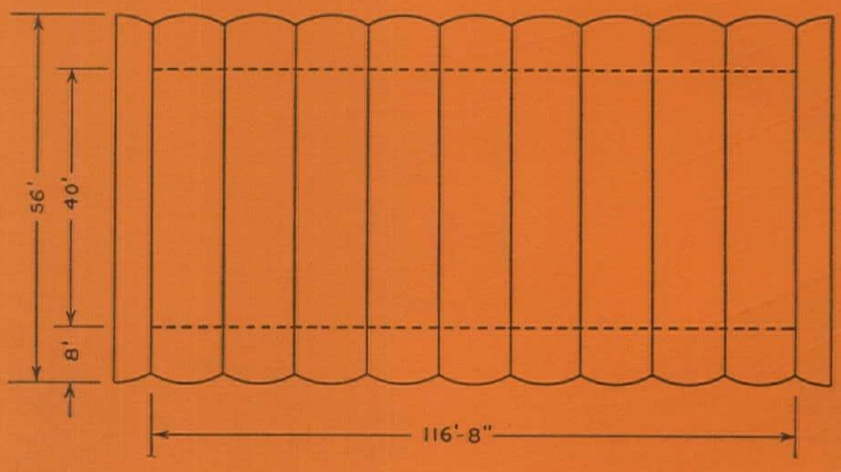
If it's "by CELOTEX" you get QUALITY...*plus!*

BUILDING PRODUCTS BY CELOTEX
REG U.S. PAT. OFF.

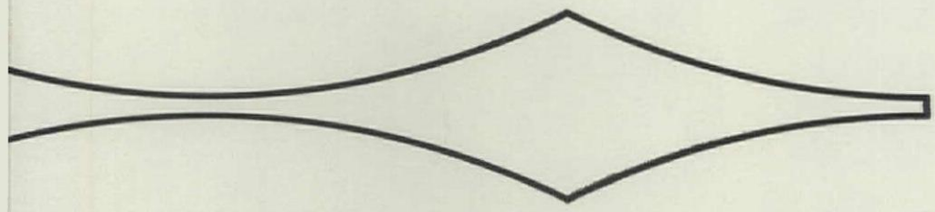
THE CELOTEX CORPORATION
120 S. LA SALLE STREET, CHICAGO 3, ILLINOIS

See 1960 Sweet's Architectural File, Catalog 10a Ce.—Write for Specifications, Samples, Information Manual.

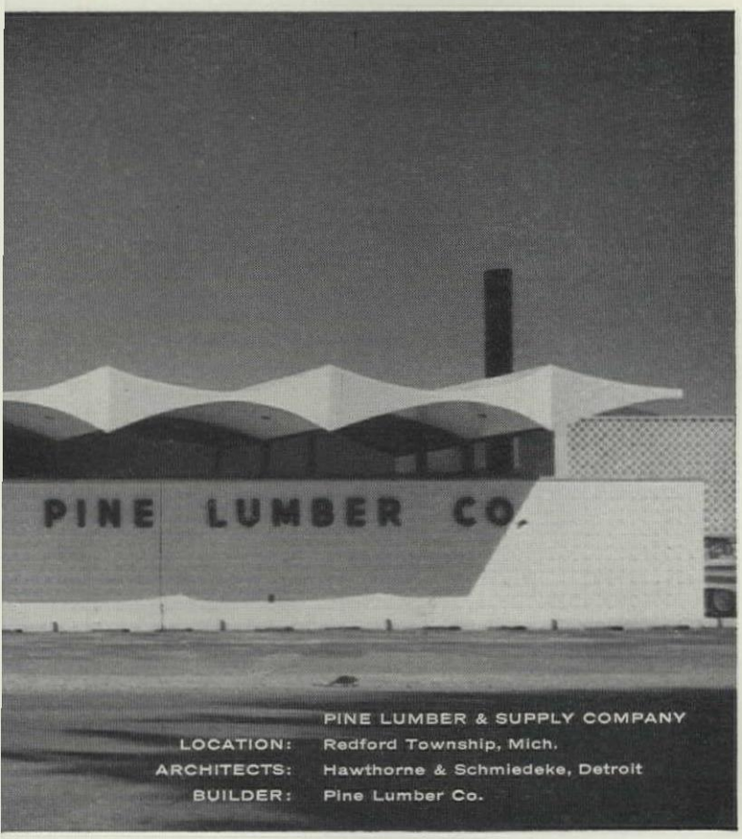

1/2" PLYWOOD SKINS
(EACH 2 THICKNESSES OF 1/4" PLYWOOD)
1 1/2" INSULATION
3'-4"
11'-8"


56'
40'
8'
116'-8"


SUPPLY CO



new approaches to structural design with fir plywood



PINE LUMBER & SUPPLY COMPANY
LOCATION: Redford Township, Mich.
ARCHITECTS: Hawthorne & Schmiedeke, Detroit
BUILDER: Pine Lumber Co.

THE AWARD-WINNING DESIGN of this retail lumber showroom is another example of the striking new architectural forms possible with fir plywood, at no sacrifice—in fact, with a gain—in structural strength and integrity.

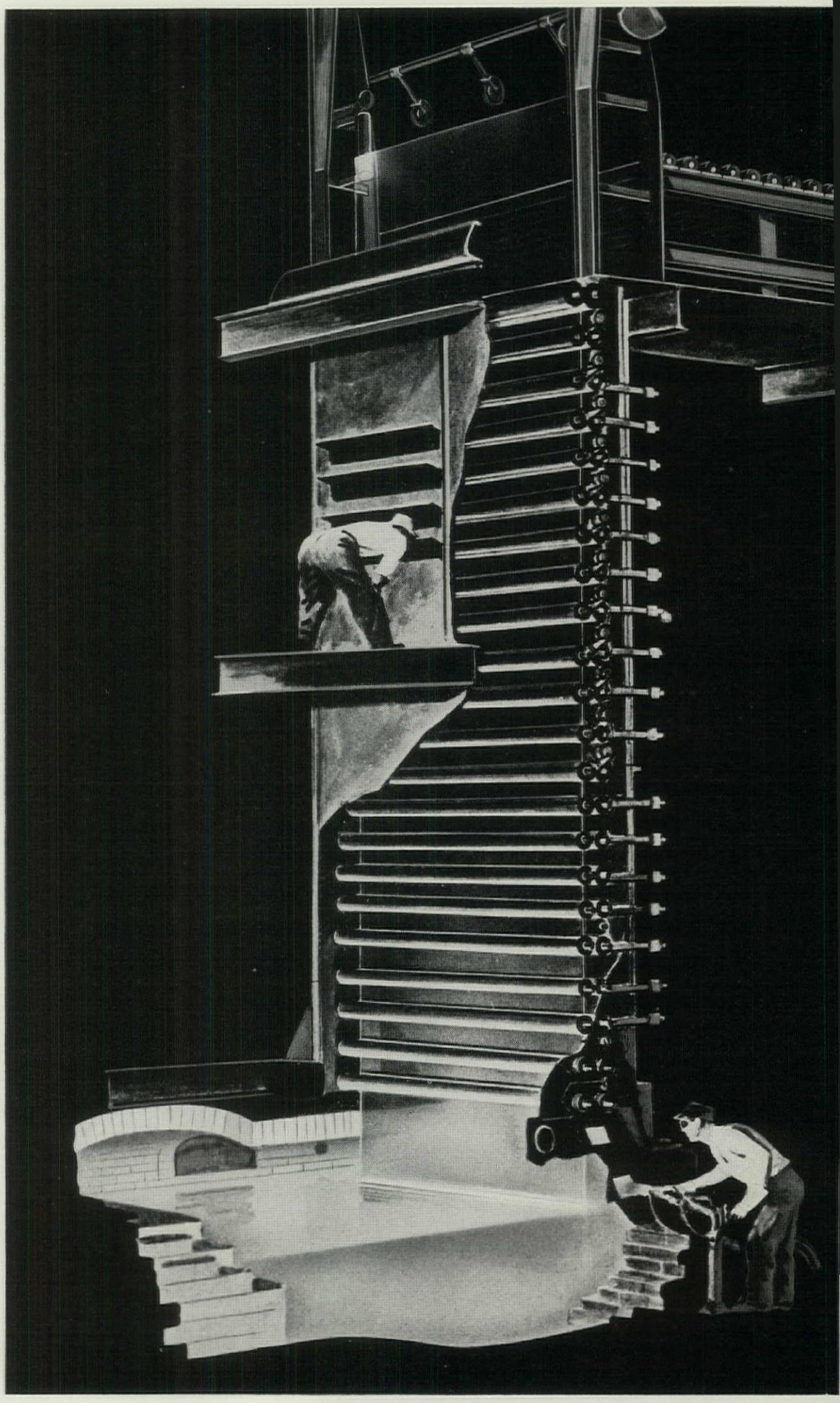
The rippling roofline was created by a series of doubly concave plywood barrel vaults. It demonstrates the major advantages of the plywood vault for non-residential as well as home construction: design flexibility, a strong rigid roof, and economy in time and materials, due to plywood's high strength-weight ratio and extreme workability.

These vaults are of modified stressed skin construction, with plywood glue-stapled at edges to plywood box beams and, at mid-arc, to a continuous 2 x 4. The system provides large clear floor areas which, together with extensive use of glass for exterior walls, contribute to the remarkably light, open look.

The delicately scalloped silhouette is given a third dimension by a sheet metal fascia that caps the vault ends and bows out in plan to repeat the curve of the arches. For basic fir plywood design data, write (USA only), Douglas Fir Plywood Assn., Tacoma 2, Wash.

DFPA®
TESTED
QUALITY

ALWAYS SPECIFY BY
DFPA TRADEMARKS



The PENNVERNON Drawing Machine forms molten glass into sheets in a straight vertical draw. No rolls touch the glass surface until it has cooled beyond injury. This machine has enabled PPG to produce a super sheet glass far superior to any now produced in the United States.



Announcing

a new kind of sheet glass with remarkable freedom from distortion...

PPG PREMIUM PENNVERNON®

New PREMIUM PENNVERNON. You've never seen a sheet glass like this before. Tests prove it has less distortion than any sheet glass now produced in the United States. Its development marks the greatest advance in flat glass technology since the perfection of the PENNVERNON process 30 years ago.

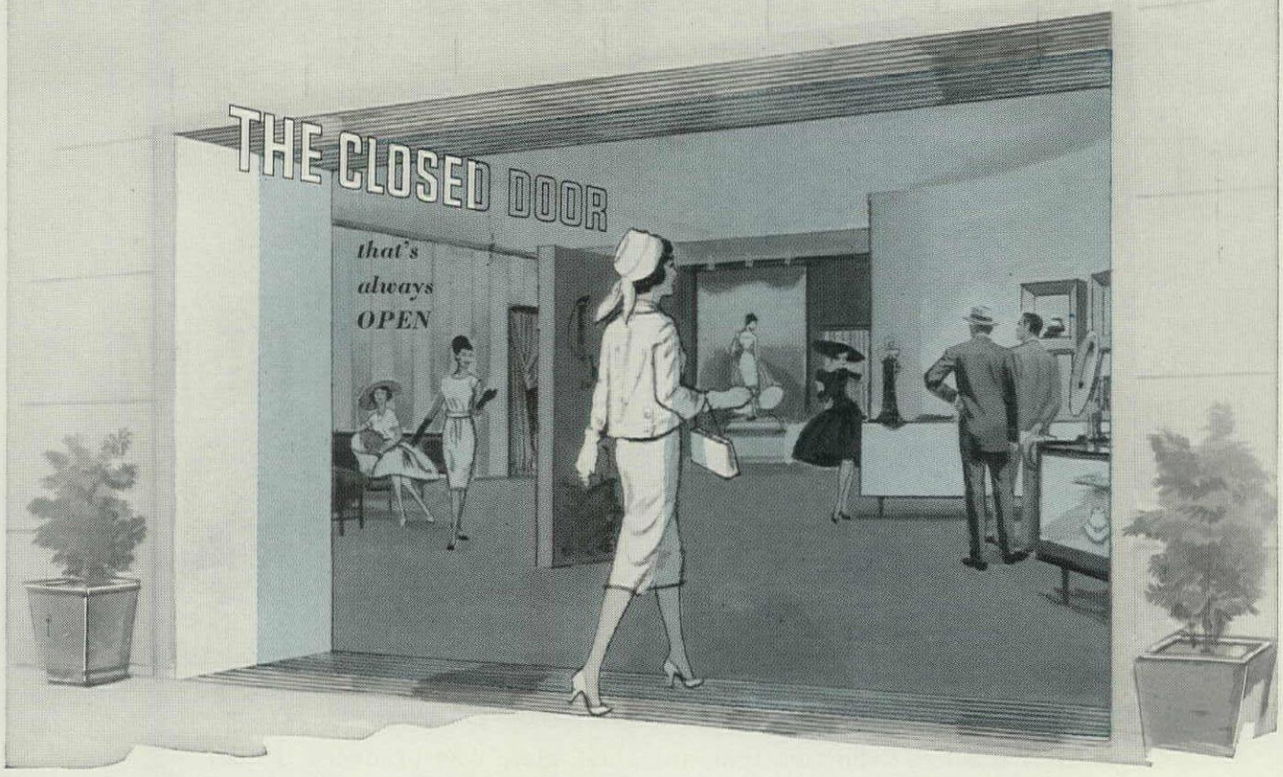
The heart of the PENNVERNON process is the giant, ladder-like drawing machine you see on the left. Glass, while molten, is drawn vertically up through the ladder. No rolls or foreign matter touch its surface until the glass has cooled beyond injury. The result is a sheet glass with an unusually brilliant unmarred surface finish, both sides, and practically no distortion.

All PPG sheet glass manufacturing plants are equipped to produce the new PENNVERNON in all standard thicknesses of window and heavy sheet glass. PREMIUM PENNVERNON is available through all PPG branches and distributors.

Pittsburgh Plate Glass Company

Paints • Glass • Chemicals • Fiber Glass In Canada: Canadian Pittsburgh Industries Limited

In commerce and industry today no blueprints for new construction, no plans for remodeling can ignore the concept of traffic flow as an integral function of architecture. One of the boldest expressions of this idea in years is the American Air Curtain.



...an entrance that's sealed against wind and weather, heat and cold, odors and insects—*against everything but people!* It's that imaginative innovation in architectural engineering, the American Air Curtain.

A gentle curtain of air, thermostatically controlled, separates and insulates spaces with different temperatures, atmospheric pressures or humidities.

Since 1952 the American Air Curtain has transformed stores, theaters, public and industrial buildings of all kinds. Doesn't this fit a functional need in your business? Write for complete information on the dramatic commercial and industrial uses of the American Air Curtain . . . made by the first and the most experienced manufacturer of air curtains.

PEOPLE AND PRODUCTS MOVE THROUGH THE CLOSED DOOR THAT'S ALWAYS OPEN

SUBSIDIARY OF UNIVERSAL MATCH CORPORATION





AMERICAN AIR CURTAIN CORPORATION
472 PAUL AVENUE, ST. LOUIS 35, MISSOURI

FORUM

EDITOR-IN-CHIEF: Henry R. Luce
CHAIRMAN, EXEC. COMM.: Roy E. Larsen

CHAIRMAN OF THE BOARD: Andrew Heiskell
PRESIDENT: James A. Linen
EDITORIAL DIRECTOR: Hedley Donovan
ASSISTANT DIRECTOR: Albert L. Furth

EDITOR
Douglas Haskell, AIA

MANAGING EDITOR
Joseph C. Hazen Jr., AIA

ART DIRECTOR
Paul Grotz

ASSOCIATE EDITORS
David Allison, Peter Blake, AIA,
Russell Bourne, David Carlson,
Jane Jacobs, Walter McQuade, AIA,
Richard A. Miller, AIA,
Ogden Tanner, AIA, Stephen G. Thompson,
Mary Elizabeth Young,
Richard Saunders (Washington),
Allan Temko (West Coast)

ASSISTANT TO THE EDITOR
Mary Jane Lightbown

RESEARCH STAFF
Mireille Gerould, chief;
Benita Galanti,
Kip Mueller, Anne Peyton

ART STAFF
Ray Komai, associate art director;
Martha Blake, Charlotte Winter,
associates; Peter Bradford, assistant

EDITORIAL ASSISTANTS
Anne Le Crenier,
Henry Martin Ottmann,
Ann Wilson

CONSULTANTS
Miles L. Colean, FAIA
Lawrence Lessing

PUBLISHER
Ralph Delahaye Paine Jr.

GENERAL MANAGER
Charles B. Bear

ADVERTISING DIRECTOR
S. C. Lawson

ARCHITECTURAL FORUM
Published by TIME INC.

Editorial

Building against fallout

Never since the days of Attila the Hun have humans exhibited such fatalism toward a new threat to their existence as they are demonstrating today in the case of the ultimate nuclear threat—a threat which has mounted with the recent warm-up of the cold war. An example of this detached passivity was the reaction in New York State to the mandatory fallout shelter program which Governor Nelson Rockefeller proposed early in the year. His suggestions were met by reactions of boredom by most New Yorkers, by baffled rage by a few. The state legislature was little disposed in an election year to enact laws forcing families to spend $1½ billion; ultimately, construction of shelters was encouraged in New York State, but left voluntary.

The question in most people's minds seems to be: *Why bother?* They all carry in a mental locket the newsreel photographs of that vast mushroom of churning radioactivity, and who can believe that huddling in a hole in the ground will be an escape from such a horror? The governor has also been accused, with some justification, of oversimplifying the blast situation and of underestimating the cost of shelters, although his costs are based on a sound professional estimating job by Architects Voorhees, Walker, Smith, Smith & Haines, of New York. In a report to the Institute of Public Administration, prepared under a grant from the Ford Foundation, these architects showed that an effective, if uncomfortable, do-it-yourself fallout shelter could be constructed for as little as $70 in an existing basement; other larger and more elaborate shelters were estimated at contractors' costs as high as $3,500.

There is no doubt that the only sure and economical solution to fallout is also the moral one—to keep an explosion from happening. Civil defense measures, however, can hardly assume this. Their job is to save lives in case of catastrophe, and despite the fact that the governor did not succeed in selling his program, his basic facts bear up under examination.

First, the fallout shelters he suggests are not blast shelters, although most of the people in New York seem to think they are. The governor, like many other people (particularly New York State governors), seems regretfully to be writing off hope for New York City itself. Unfortunately, he is close to being correct.

The latest available figures of the destructive force of a 20 megaton bomb—the newest, largest, but not necessarily economical, size—indicate it would blast a crater 1 mile wide, more than 200 feet deep, generating temperatures of 4 to 5 million degrees Fahrenheit over an area of roughly 46 square miles. In the 76 square miles surrounding this hell there would be heavy damage, and except under unusual wind conditions considerable

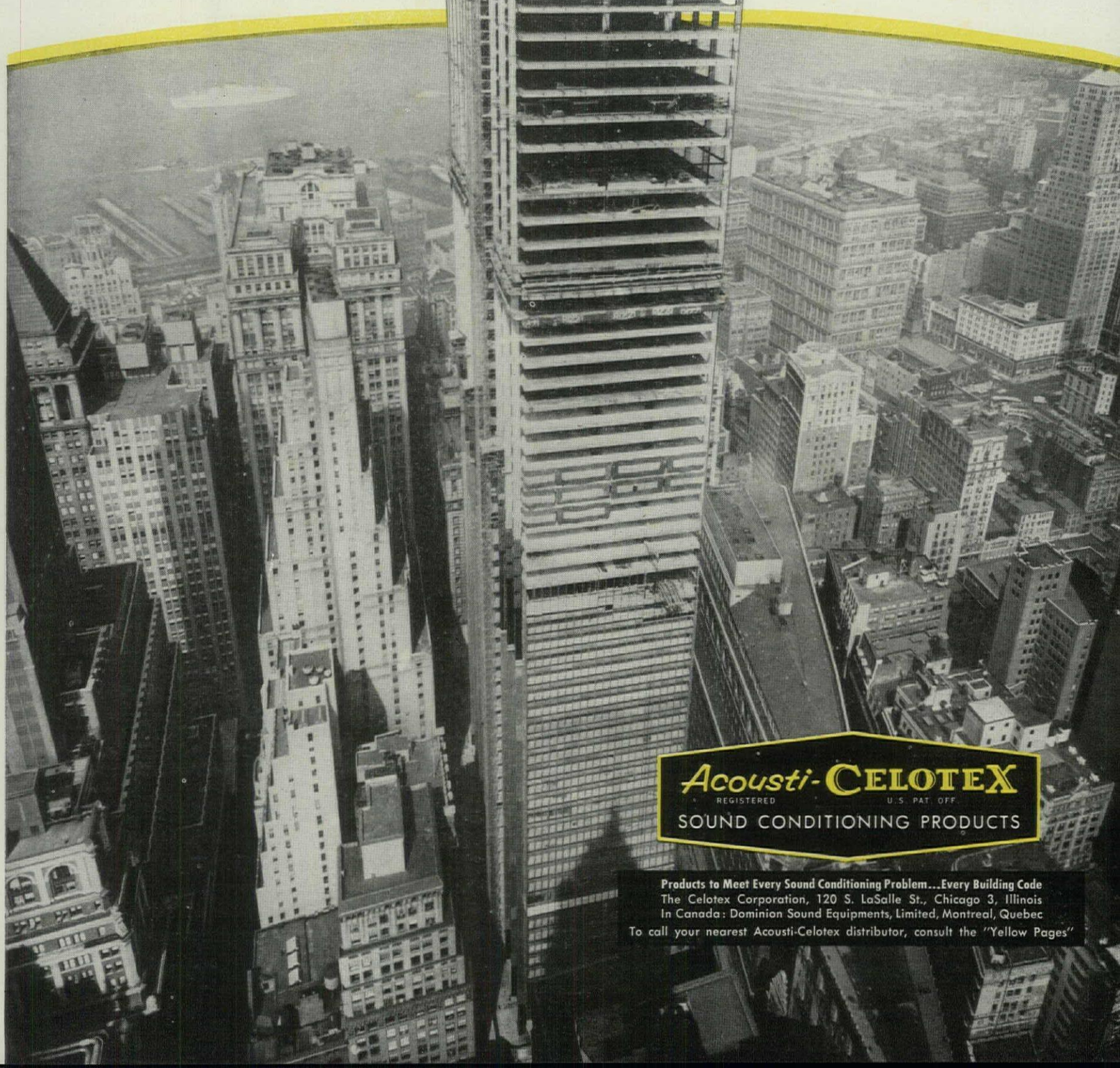
continued on page 81

WORLD'S BIGGEST OFFICE BUILDING SOUND CONDITIONED BY CELOTEX

New York's Chase Manhattan Bank Building . . . Sixty stories and 131 Million Dollars worth of "custom built" space, featuring unobstructed floor areas with beautifully modern multi-purpose ceilings. PRODUCT SELECTED: Acousti-Celotex Fissured Mineral Fiber Tile on a concealed suspension system integrating lighting, air-conditioning, and movable partitions. This is only one of many important projects from coast to coast with "CEILINGS BY CELOTEX". . . installed by the world's most experienced organization in sound-conditioning.

THE CHASE MANHATTAN BANK BUILDING
Architect: Skidmore, Owings and Merrill.
Builder: Turner Construction Co.
Ceilings: Jacobson & Co., Acousti-Celotex distributor.

If it's "by CELOTEX"
you get QUALITY... *plus!*



Acousti-CELOTEX
REGISTERED U.S. PAT. OFF.
SOUND CONDITIONING PRODUCTS

Products to Meet Every Sound Conditioning Problem...Every Building Code
The Celotex Corporation, 120 S. LaSalle St., Chicago 3, Illinois
In Canada: Dominion Sound Equipments, Limited, Montreal, Quebec
To call your nearest Acousti-Celotex distributor, consult the "Yellow Pages"

fallout would occur over the encircling 375 square miles or so. This means that in the case of a hit in the center of a city, nothing would remain downtown and in the nearer portions of the surroundings. But 5 miles from the point of blast —even closer than the beginning of most suburbs—there would be a great deal of difference depending on whether the population could get to fallout shelters or not. A family which could crawl into a rudimentary shelter within an hour after impact could live to emerge two weeks later, perhaps sooner; for radioactivity, fortunately, is not impossible to filter from the air. It is not a poison gas, but a lethal dust.

Of course the fatal question then becomes: what kind of world would meet the eyes of this emerging, surviving suburban family? Would not all the water in reservoirs be dangerous? Would not all the crops out beyond the suburbs or all the existing foodstuffs be useless? Would the generators be working? Would there even be kerosene for burning? Would it be any better equipped a world than that which greeted the first fishlike premonition of man that slid out of the primordial slime onto the shore and decided to stay?

It surely would be a distraught, broken world, and the dangers of vast fires and subsidiary blast damage miles from the impact zone should be considered more carefully than the Rockefeller Report treated them, experts have pointed out. But even under the conditions described above, there would be both people and possibilities even closer to the city than the suburbs. If food were covered it probably would be usable; water from drilled wells (or covered reservoirs) would be drinkable; beyond the suburbs some farmland might have to be plowed deep, but not all of it—and instrumentation could indicate which. The alternative is awesome: if the population within the 375 square miles around the hit area did *not* have fallout shelters, it would be devastated, destroyed slowly by a downward drift of gamma-ray activity. Almost no one would survive, except by accident.

Does not this indicate that some civil defense measures might be taken against the bomb, beyond blowing practice sirens every few months? The Rand Corp. has urged the adoption of a minimal program, simply identifying effective fallout shelters that already exist, such as basements of heavily built buildings. It seems a reasonable start. It hardly can lead to smugness against the terror, but it might save millions of lives some awful day.

People-chairs



For some years now, we have been made distinctly uneasy by a development in one of our sister-arts, the field of furniture design. It seems to us that modern chairs were beginning to look more and more like people. Walk into any room furnished with Charles Eames' handsome creations, and you get the uncanny feeling that you are crashing a party. Now along comes Jay Doblin to confirm our sneaking suspicions. Doblin, who heads Chicago's Institute of Design, has designed some chairs for ALCOA, and these chairs actually *are* people. Or, at any rate, they are designed to look like people (see cut), with heads, arms, legs, and all the rest. When you feel like sitting down, you just seek out the most comfortable lap and hop into it.

Mind you, we are not criticizing Mr. Doblin (or the aluminum company). We are just concerned. When you get to the point where people look like chairs (and vice versa), who is going to know which lap is aluminum, and which lap is off limits? The way some ladies' garments shape up nowadays, it's hard enough to tell as it is.



A building of rugged fundamentals

Kahn's laboratory for the cluttered University of Pennsylvania campus proclaims order and suitability in architecture.

BY JAMES MARSTON FITCH

The new building which Louis Kahn is just now completing for the University of Pennsylvania is an act of authentic, almost startling originality. There is little that is familiar and nothing ingratiating about it: it makes no effort to soften the impact of its statement, to modify with soft words and pleasant music the points it has to make. It is as clear and astringent as a sermon by Martin Luther. It says that architecture is a serious affair, in need, just now, of an original bedrock reexamination of its fundamentals. It ridicules, by its very presence, the lace-edged mush that surrounds modern man, the kindergarten result of his acting like a four-year-old and then hoping to escape the consequences of his own foolishness with a singing commercial or a couple of multicolored curtain walls.

And yet, placed in the middle of the most congested and visually anarchic campus in the whole world, Kahn's building achieves a minor miracle of civilized architectural behavior. For it not only stands out in most flattering relief against all the operatic bombast which surrounds it, but it also, by the sheer poise and magnanimity of its forms, bestows upon its bewigged and beribboned neighbors an aura of reflected felicity. Its whole vicinity is enriched by its presence. This is polemical architecture of a very high order—accomplished, adult, humane.

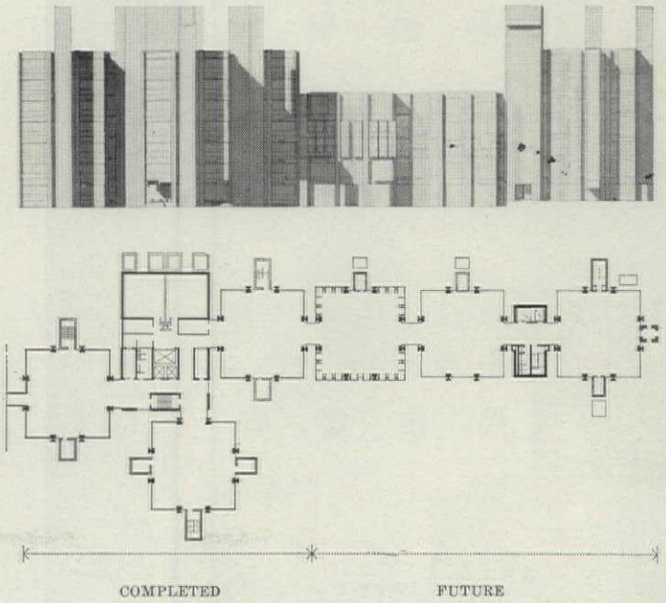
The Richards Medical Research Building is not an easy building to analyze because its visual impact is almost wholly the result of important decisions in plan and structure, not in any surface enrichment or detachable device. In such a design, plan and structure were of course simultaneously developed but to comprehend their interaction it is necessary to discuss them separately. The plan of clustered towers stems from Kahn's conviction that the standard corridor-type layout was unsatisfactory because of its linear nature—yielding spaces which were inhospitable, anonymous, inflexible. With the pavilion concept, framed in a clear span, each department could subdivide its allotted space as it saw fit. The pavilion had also the virtue of permitting the fullest application of Kahn's famous principle of "served" and "servant" spaces—especially applicable in this case

PHOTOS: (BELOW) GEORGE ADAMS JONES; (OPP PAGE) JOHN EBSTEL

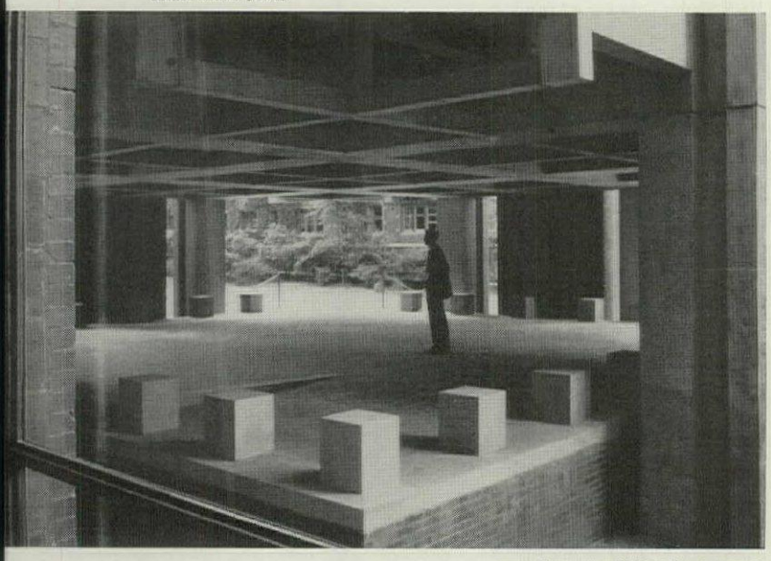


. . . the poise and magnanimity of its forms.

. . . important decisions in plan and structure.

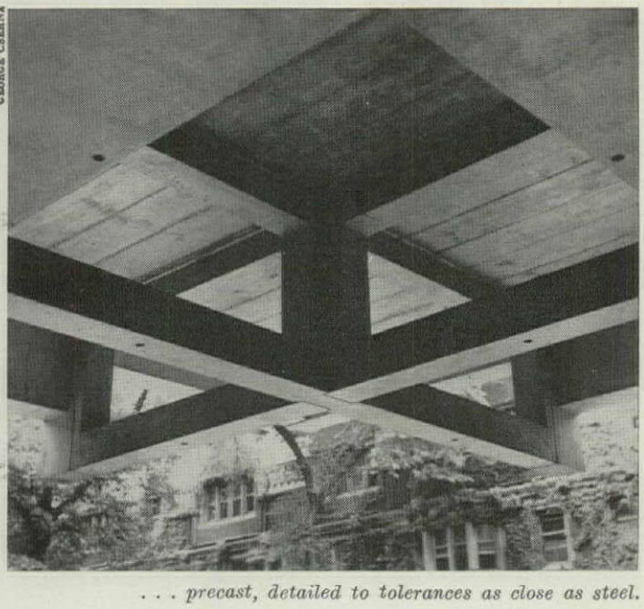


GEORGE ADAMS JONES



. . . massive, anything but gross.

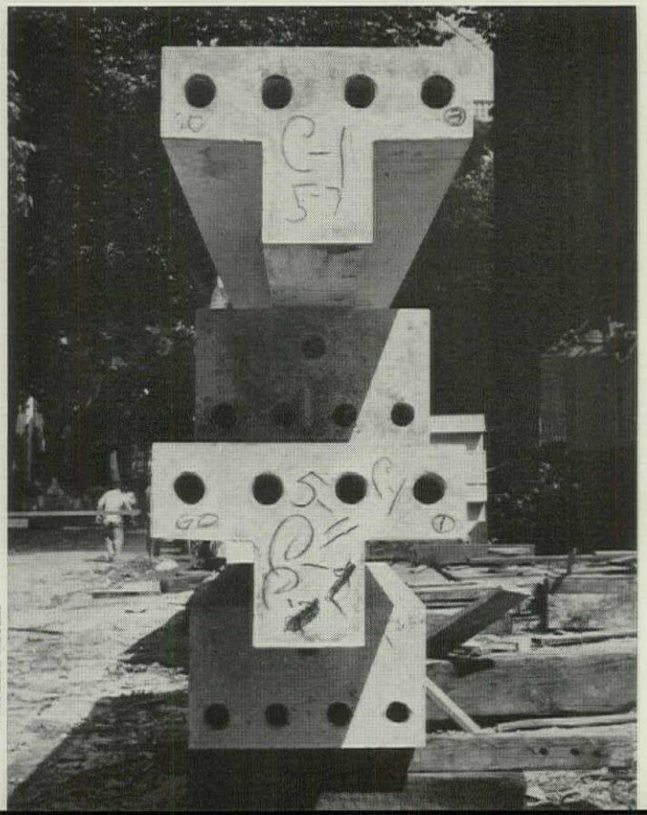
GEORGE CSERNA



. . . precast, detailed to tolerances as close as steel.

. . . as the bone accepts the marrow.

MARSHALL MEYERS



because of the noxious chemicals and contagious diseases with which the researchers work. Most of these "servant" spaces (including the animal pens) are grouped in the central tower which acts as a sort of spinal column to the stacked pavilions clustered around it. Other vertical "servant" spaces—extra stair towers, foul-air exhausts—adhere to the periphery of the pavilions themselves.

These vertical servant spaces intersect with a deep horizontal zone of servant space below each floor level, which permits a network of wires, pipes, ducts, and tubing to deliver the various energies, fluids, gases, pressures, and vacuums to the individual laboratory benches. The interior dimensions of the pavilion (45 by 45 feet) were derived from a combination of two fixed modules —the 12-foot maximum run allowed from plumbing fixture to soil stack and the minimum depth of 5 feet for workbench and worker.

This plan is developed in three dimensions into a structural system of great sophistication. To begin with, it is of reinforced concrete (like all of Kahn's structures) because he demands more service from his skeleton than simple transmission of loads to the ground. Often his columns are "wet" (though not here); sometimes they are enlarged into giant tubes to carry elevators and stair towers; in this case the whole central tower of monolithic concrete may be regarded as one such column. Similarly, Kahn's horizontal elements are more than simple floor slabs. They are three-dimensional cellular constructions which accept the tubes, ducts, and wires "as the bone accepts the marrow." It is obvious that steel would be an unsuitable medium for such a structural concept. Its forms are too limited and too final. In addition, Kahn feels, steel is actually too fine a material, too highly capacited, to use in anything but machines!

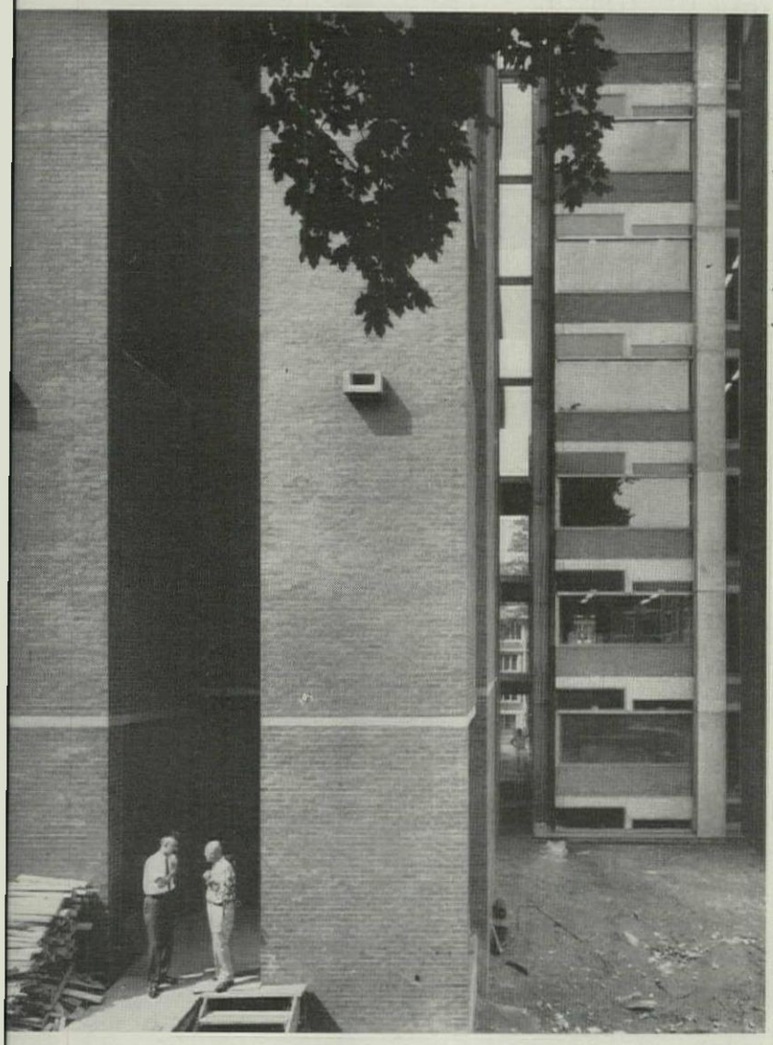
Though these concrete elements are massive, they are anything but gross. The skeletal members are all precast: the paired H-columns around the pavilions; the great Vierendeel trusses which they support; the lighter intermediate trusses; the spandrel beams. These were all so elegantly detailed, steam-cured to so smooth and dense a surface, that they assembled on the job to tolerances as close as steel construction. Kahn is proud of the fact that this obvious precision proved economic as well as efficient: for all its lack of orthodoxy, the building was erected at a cost about 25 per cent under conventional construction.

Most of the sensuous impact of this building derives directly from such esthetically neutral facts as these. The only arbitrary decisions in the entire design were the choice of the brick (the same purple-pink as the rest of the campus); the decision to leave unburnished the stainless-steel window frames; and the use of a glare-reducing blue glass in the "transoms" above the windows (a decision Kahn now regrets; though the value pleases him, he thinks the color should have been a warm gray). Yet it should not be assumed there was anything "automatic" in this design, in the sense that Kahn would not have been in full control throughout. It is rather that, while he tries to suspend his preconceived



. . . the sensuous impact of esthetically neutral facts.

GEORGE CSERNA



PHOTOS: (LEFT) JOHN EISTEL; (OTHERS) GEORGE CSERNA

. . . a suspension of preconceived ideas of form.



. . . an aura of reflected felicity.

ALFRED NEWTON RICHARDS MEDICAL RESEARCH BUILDING, University of Pennsylvania, Philadelphia. ARCHITECT: Louis I. Kahn. LANDSCAPE ARCHITECT: Ian McHarg. STRUCTURAL ENGINEER: Keast & Hood. STRUCTURAL CONSULTANT: Dr. August E. Komendant. MECHANICAL ENGINEER: Cronheim & Weger. ELECTRICAL ENGINEER: James T. Clark. GENERAL CONTRACTOR: Joseph R. Farrell, Inc.

---

ideas of form in order to permit these specific forms to work themselves out, at the same time he subjects them to the sternest intellectual examination. It is from this process that the form emerges with an esthetic identity all its own.

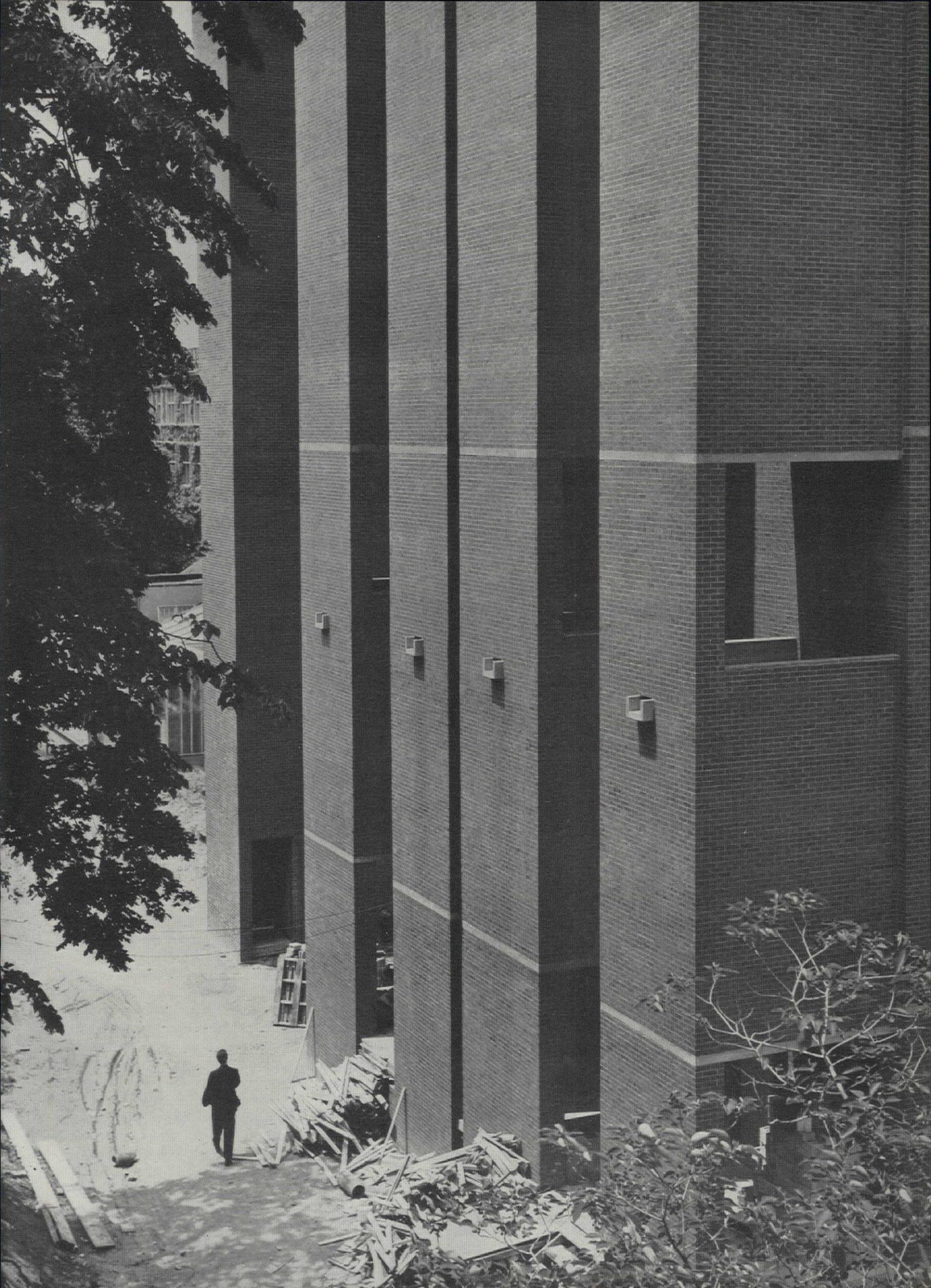
Of course, the creative process is more complex than this: creation always is. The massed brick towers of this building are bound to remind the more literate observer of the towers of San Gimignano and Bologna. Nor is the transfer of images mistaken: Kahn is a great admirer of these very towers and knows that they were present in his mind when this building took shape. Needless to say, there is no applied historicism here. The towers grew, as has been explained, from functional necessity and would have taken form, Bologna or no Bologna. But, as an extremely sensitive artist, Kahn knows that those earlier towers have, in some pervasive way, played a part in forming his.

Much of his recent work, including this building, has been linked to the movement called *the new brutalism.* Such a suggestion Kahn brushes impatiently aside. For him the term connotes an attitude, an intellectual posture external to the act of designing and consciously applied to it, like a coat of paint. In any event, the unequivocal gravity of his building he attributes to quite other causes: to the fact, precisely, that he thinks of himself as engaged in a most serious enterprise, the basic examination of the new conditions confronting architecture. This is bound to be reflected in his work. He puts it this way: "One should not be surprised to find, in fact one would *expect* to find, an archaic quality in architecture today. This is because real architecture is just beginning to come to grips with a whole new order of artistic expression, growing, in turn, from the new set of tasks which society has set for the architect." And, as he quite correctly points out, such conditions historically produce the phase of art we call *archaic.* From his point of view, most architects today are evading this task; and the glitter and glibness of even their best buildings seem to him not at all the language of the future but the last efflorescence of an epoch already dead.

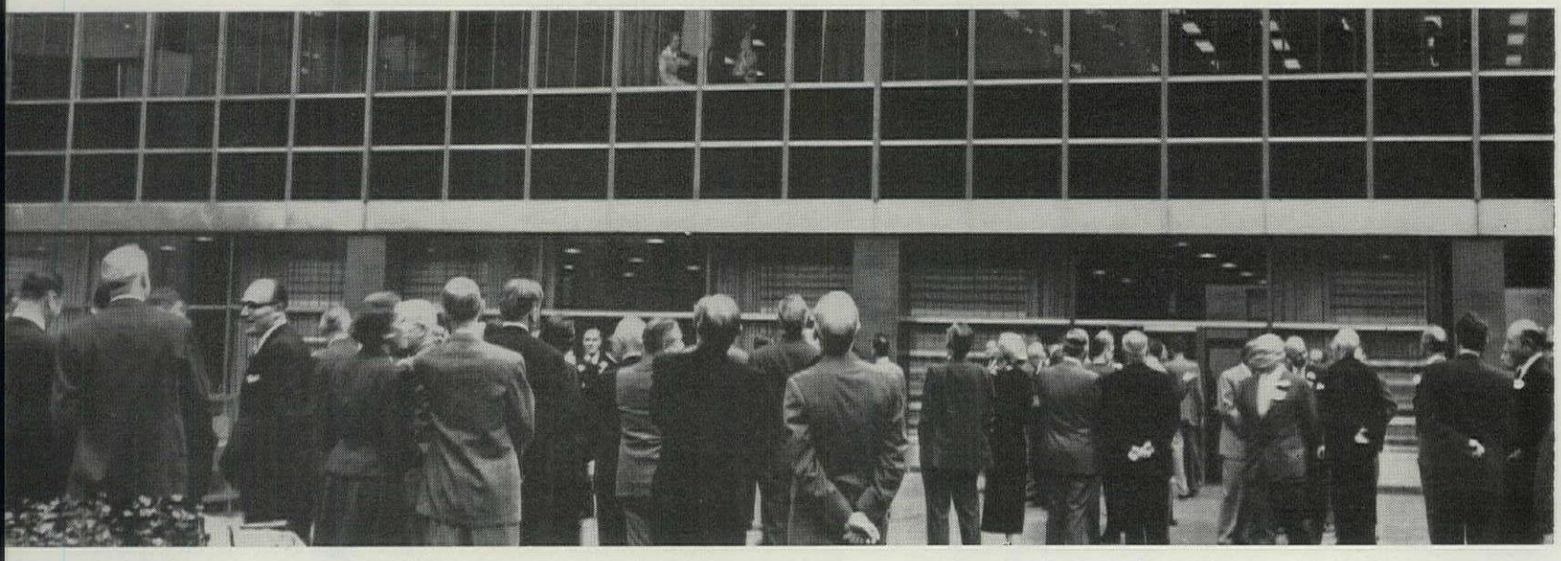
The very use of the word "archaic" is dangerous, as he is well aware. He does not want it thought that he is advocating an *archaistic* mode of expression, which is an eclectic return to a "simpler" past. On the contrary, as a designer, he tries to solve each problem with all the competence and dexterity at his command. But his sense of historical perspective tells him that the problems are still too new and too immense for one generation—let alone one man—to master with that effortless

continued on page 185

. . . a hierarchy of ennobling spaces.



Good architecture is good promotion



Patrons of outstanding corporate design discuss some of its effects on the company, the customer, and the community.

Ever since King Cheops piled up some 100 million cubic feet of masonry to harbor his corporeal remains, monarchs and merchants have been erecting buildings with varying, and sometimes unexpected, promotional results. The Great Pyramids, extravagant failures as tombs (mainly because they attracted so much attention), have nevertheless proved a boon to Egypt's tourist economy. The opulence of Versailles may have contributed as much to the demise of the French monarchy as it did to Louis XIV's greater glory, but it still lures plenty of sight-seers to Paris. St. Peter's, which almost broke the Roman Catholic Church's treasury at the time, has paid off grandly as a symbol of a city and a whole religious world.

Great architecture, of course, has far deeper purposes than mere promotion. Yet the fact that it does attract people has economic consequences of some import. An imaginatively designed modern shopping center, or hotel, for example, is usually more successful than an unimaginative one. But what, the skeptical businessman might ask, is there in good architecture for an ordinary manufacturer, or a utility, or a bank? Lever House may be lovely, as the saying goes, but does it sell soap?

To many patrons of good corporate architecture, surveyed recently by FORUM, the answer is yes: architecture at its best can provide a lot more than lowered maintenance costs or improved production flow. Even discounting an owner's understandable urge to justify his own taste, and a sometimes considerable investment of his stockholders' funds, these gentlemen are a remarkably satisfied lot, and for many of the same reasons.

To take the obvious example first, Lever House, postwar leader of the corporate "showpiece" movement, is still yielding handsome returns. A survey made two years ago showed that its employee turnover was exactly 37 per cent of the average reported for other large companies in New York's competitive labor market. Further, Lever finds it can afford to be highly selective in choosing replacements. Visitors (Lever still has some 40,000 a year, from architectural students to cooking clubs) are generally impressed by the courteous attitude of employees and their pride in the building. While the company declines to place a dollar advertising value on its generous and pioneering design, it feels that estimates of $1 million a year might not be far off. In any case, the promotional value considerably more than offsets the $200,000 or so in annual rents lost by not filling up the permissible zoning envelope with office space and stores.

Ten ways to use a tower

Part of the value, Lever feels, comes from the use to which the building is put. The company arranges continuing exhibits of schoolchildren's art, adult sculpture, and the like in its glass lobby and every Christmas installs a different decorative carousel. Reproductions of the building appear consistently on the company's letterheads, booklets, purchase forms, checks, and Christmas cards, and in its considerable consumer advertising, where the tower reinforces each product guarantee in print and serves as a background for TV commercials (Dove soap's doves fly around it on "The Price Is Right"). Fashion photographers still pose their languid models against its sleek glass sheath and colonnades, and the window-washers' platform still goes up and down, making the obvious inferences about cleanliness to all who pass. Lever's public relations director, J. E. Drew, figures the build-

ing has earned the company something over 1 million column inches and countless broadcast hours of free publicity since 1952. Says Drew: "Many a structure is topped by a flamboyant neon display proclaiming to the world that this is the 'Whozit Building.' We feel the objective can be accomplished much better in the design of the building itself."

Not far behind Lever in setting the new corporate fashion was Manufacturers Trust Co.'s famed "glass bank" on New York's Fifth Ave. and 43rd St. (which it has since followed with a head-office remodeling on Wall St. and distinctive branches elsewhere). "Banking services were identical to those offered in our old branch across the street," says Board Chairman Horace C. Flanigan, "yet during our first year in the new building the number of accounts increased 31 per cent, profits 200 per cent, sales of travelers' cheques 30 per cent. In addition, we have had more than 100,000 nonbanking visitors since opening day in October 1954, and they still come at the rate of 400 a month. We conducted a survey and found that 96 per cent of the employees said they had no problems working in a glass house; many said they got a lift from working virtually 'outdoors.' Being under constant scrutiny from outside has made our people more alert, more conscious of their dress, their appearance, their actions. This in turn has resulted in improvements in employee morale and efficiency. As one employee remarked: 'In such a bright, uncluttered place you can't help feeling bright and alert yourself.'" Perhaps the most convincing testimony to Manufacturers Trust's success is its mounting number of imitators, both bright and not so bright: the literally dozens of new glass banks across the U.S.

New image for insurance

As banking has broken with its tradition of columned temples and windowless vaults, so has the insurance industry, long preoccupied with solidity and permanence, begun to adopt the "progressive" corporate image. While giant Metropolitan Life still gets advertising mileage out of its grand old 1909 tower ("The Light that Never Fails"), and second-running Prudential has patterned its new regional headquarters somewhat literally after the Rock of Gibraltar, others have employed the sophisticated approach with notable results. Undoubtedly the best known is Connecticut General Life, which describes its striking rural headquarters outside Hartford as "probably the most successful promotional project we have ever undertaken." Not only has the building improved Connecticut General's recruiting and turnover problems in Hartford's big insurance pool, but it has left a strong impression on a good many of the 400-odd national and municipal leaders who helped open it for business in 1957 with a high-level symposium on the new highway program and its challenge to metropolitan planning. This conference, a genuine public service compared to the usual, tired ribbon-cutting and dedication speeches, has combined well with the bold beauty of the headquarters itself as a continuing stimulus to both management and the community. Observers feel it has undoubtedly helped speed up Hartford's own downtown redevelopment and the formation of a regional planning agency among the area's 28 separate towns.

Connecticut General's example surely must have encouraged the Mutual Insurance Co. of Hartford in the construction of its own smaller headquarters downtown, a trim and gracious modern structure set back behind a plaza and embellished with an arresting sand-cast bas-relief by Sculptor Constantino Nivola. "Our company had been a substantial factor in the property insurance business for 129 years," says Mutual President John Alsop, "yet not too many people knew of our existence, partly because we had always been a name on somebody else's wall. Since the opening of our new building —which we were careful to presell the public as a work of art—the company is much more widely known, and carries more prestige among our large competitors. Where we rarely got an employment application in the old days, we now have people walking in all the time. I feel strongly that the building has already paid off, and above all, that good architecture does not necessarily cost a lot more. In fact our building is, on balance, quite an economical structure. It is a stimulating place in which to work, and has been a big shot in the arm to company morale."

Architecture for sales

Among manufacturers, some of those directly involved in the building industry have profited from imaginative architectural demonstrations of their products. Aluminum Company of America, for example, estimates that more than 1,000 multistoried buildings clad in aluminum (much of it Alcoa) have gone up around the country since it handsomely pioneered the idea in its own Pittsburgh headquarters completed in 1952. Reynolds Metals' "showcase for aluminum" headquarters in Richmond and Detroit have drawn countless visiting architects, fabricators, and potential clients, and have given a lift to company sales and office-force morale. (Like a good many others with distinctive headquarters, Reynolds commands a high grade of office help, and attends to its local public relations by conducting building tours, sponsoring cultural events, and lending its auditorium to community groups.)

Manufacturers outside building have espoused good design for a variety of reasons less obviously related to sales. Texas Instruments, whose leadership in the electronics field has been amply reflected in stock-market ratings as well as architecture, describes the thinking behind its handsome Dallas campus: "It has long been established as part of our management philosophy that buildings are not merely places in which to work, but must be designed specifically for the people and for the machines

continued on page 186

Harvard saves half a million dollars by rebuilding the inside of century-old Boylston. Outside, only a new entrance and new windows hint at the change.

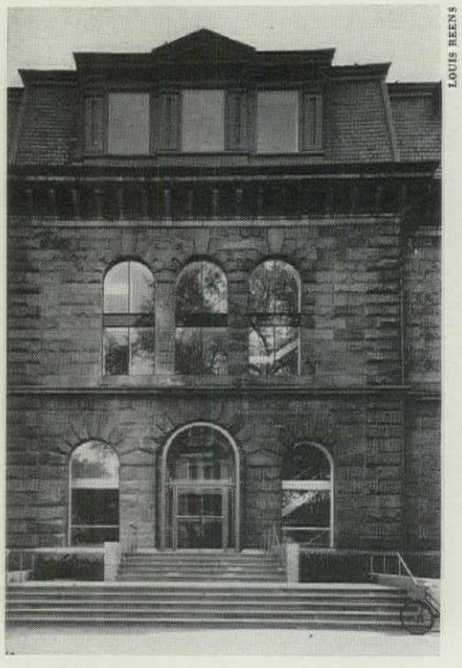
Boylston's fifth incarnation

With typical Harvardian reticence, the hulking mass of Boylston Hall stands in the "Yard," traditional center of the university in Cambridge, pretty much as it has for a century. Only a spacious new flight of steps leading to a bronze-framed entrance and great sheets of plate glass filled into old arched openings reveal, on the *outside*, the total rebuilding of the *inside* to house modern facilities for the teaching of languages.

The treatment accorded Boylston Hall, the very opposite of "face lifting," has heretofore been saved for national monuments and architectural masterpieces (like the White House or Harvard's own eighteenth-century Massachusetts Hall, rebuilt in the thirties to house the president's office).

Boylston Hall could hardly be classified as such. Built in 1857, just before the high-style excrescence of Victorian Gothic revival, it is not even a key piece in the architecture of the Yard. Its main virtue is, perhaps, solidity—with 2-foot-thick walls of rusticated Rockport granite modeled into an Italianate block surmounted by a Frenchified Mansard roof.

This massive structure had been extensively remodeled before. In 1870 the Mansard roof was added, contributing an extra floor. Further renovation around the turn of the century and in 1929 altered the building further, always to fit a new or expanded use. The present language center is, in fact, heir to the building from antecedants ranging from chemistry to oriental studies.



LOUIS REENS

But in 1958, when the last occupant, the Harvard Yenching Institute, removed to a new building outside the Yard, a program for a new language center requiring 100 offices, classrooms, and a lecture hall for seven language departments was prepared. The Architects Collaborative, under Partner Benjamin Thompson and Job Captain Richard White, undertook to adapt old Boylston to that program.

Their solution was ingenious. By inserting one complete floor in the high-ceilinged space between the old second and third floors, by filling a cavernous old central stair hall, and by constructing a mezzanine over portions of the first floor space, a 40 per cent increase in floor space (from 39,206 square feet to 53,300 square feet) was obtained.

The 53,300 square feet, virtually new space all, was obtained for a cost of $880,000, or $16.50 a square foot. Equivalent actual new space, TAC estimated, would have cost Harvard nearly $25 a square foot, or $1.3 million.

The remodeled space, air conditioned, fireproofed, furnished, and finished in a warm, trim style, contains, on the first floor, a handsome entrance hall, a 160-seat lecture hall, a lounge and meeting room (with a library on a mezzanine above), and two classrooms. On the ground floor below, three more classrooms and an audio classroom (where students can listen to tapes in their language specialty) were fitted in. Above, on three identical floors, faculty offices ring an interior core of seminar rooms and utilities. Way up are offices for the Public Speaking Department.

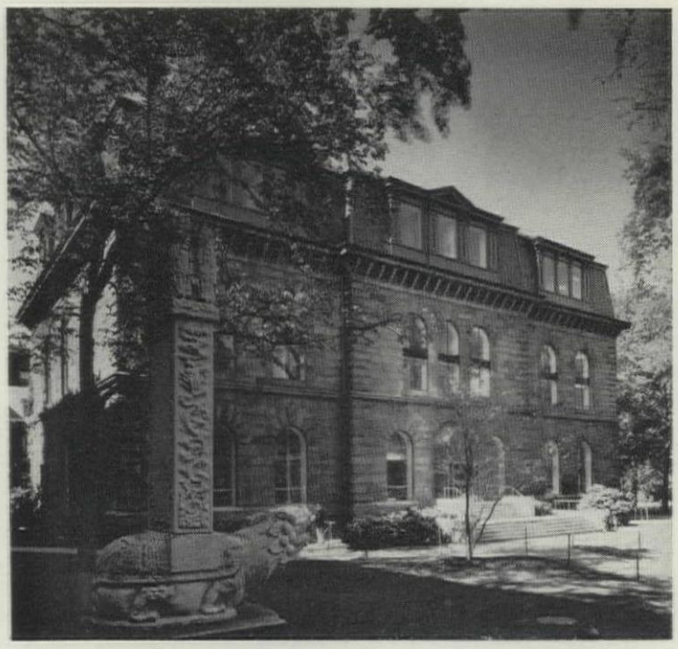
These exceedingly modern and generous teaching facilities take their place comfortably in the Harvard Yard. This fitness, perhaps, is the real reason Boylston was remodeled and not replaced. Built over a period of 350 years, all the buildings in the Yard were modern when they were built. Now, some are in style and some are out, but they all *belong*. Harvard, like some old dowager from Boston's Beacon Hill across the Charles River, has always known that time and fashion are fleeting. But she does the best she can from moment to moment, knowing that all will be of a piece if fundamental principles and quality are factors throughout.



Exterior before and after *(above and below) shows little change except for new fixed glass filled into the old stone arches formerly filled with heavy wood sash. Stone walls were left as they were, marked with the patina of a century's weather.*

ARCHITECTS: The Architects Collaborative. LANDSCAPE ARCHITECT: Robert Fenton. STRUCTURAL ENGINEERS: Morgenroth and Associates. MECHANICAL ENGINEERS: Reardon & Turner. INTERIOR DESIGNERS: Design Research Inc. SPECIFICATIONS CONSULTANT: Werner Gumpertz. GENERAL CONTRACTOR: Bond Brothers Inc.

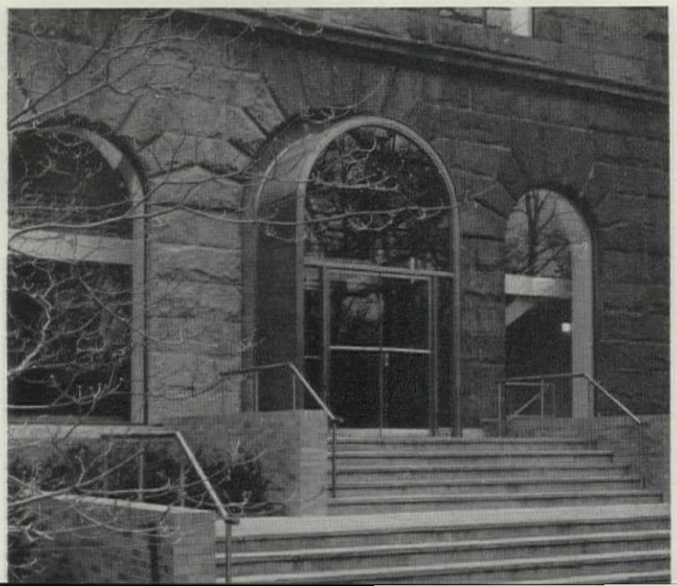
PHOTOS (LEFT & BELOW): LOUIS REENS



Bronze-framed entrance vestibule *follows the arch of the masonry wall but reflects newness in elegant hardware and trim and shiny plate-glass panels. The new mezzanine floor can be seen behind fixed glass panels at either side of the door.*



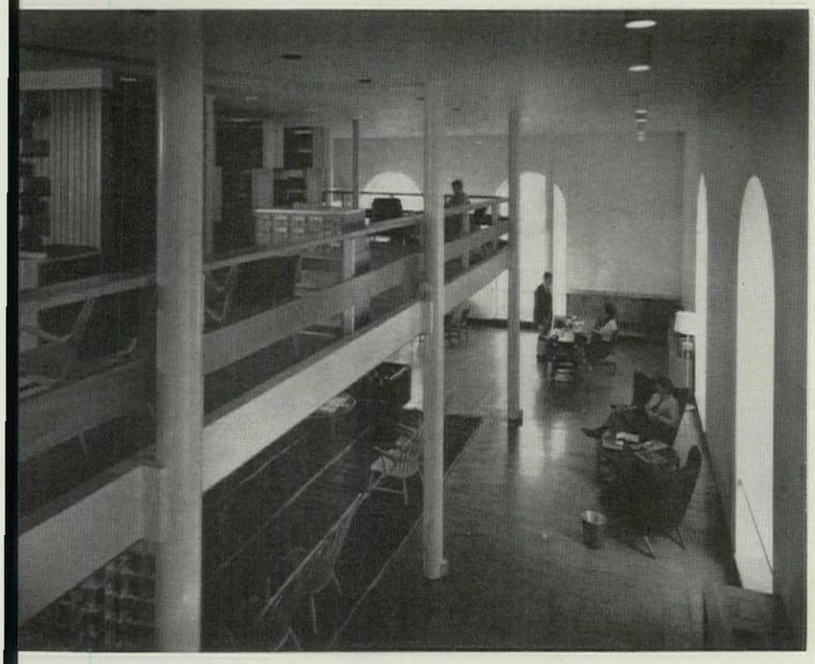
Entrance hall *(looking from vestibule toward lecture room, above; toward* **meeting room,** *below) is floored with slate and decked above in wood. The low, 7-foot ceiling suits the exterior's heavy mood. Glass partitions extend space beyond.*







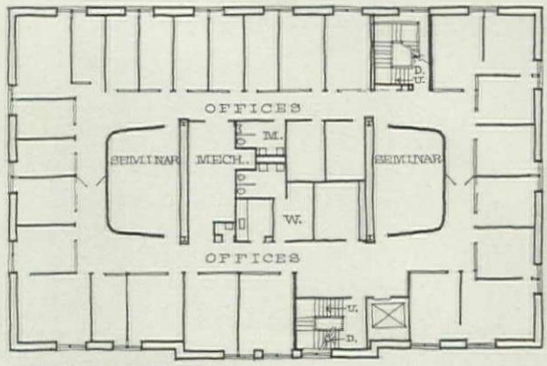
New mezzanine *over the entrance hall (above) adjoins the mezzanine over the main lounge-meeting room (below). Mezzanine space is used as a* **library** *for language studies and is equipped with audio-listening devices for study of tapes.*



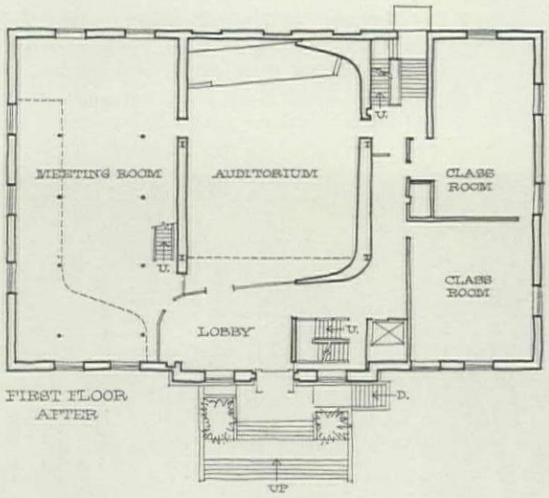
Combination lounge-meeting room *is handsomely furnished with leather couches and wood armchairs set on a luxurious Moroccan rug. Wood ceiling continues pattern of entrance-hall ceiling.* **Room** *is used as part of the library or for social events.*



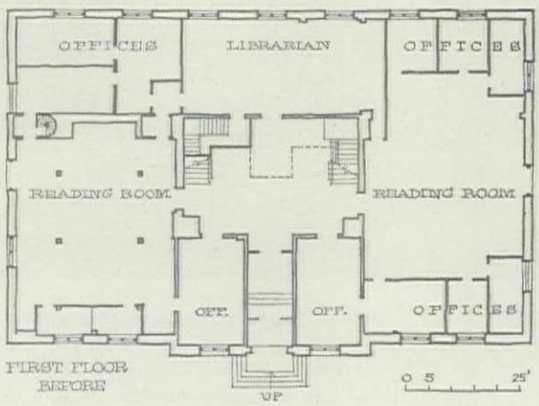
PHOTOS: LOUIS REENS



THIRD FLOOR (NEW)
SECOND & FOURTH FLOORS SIMILAR

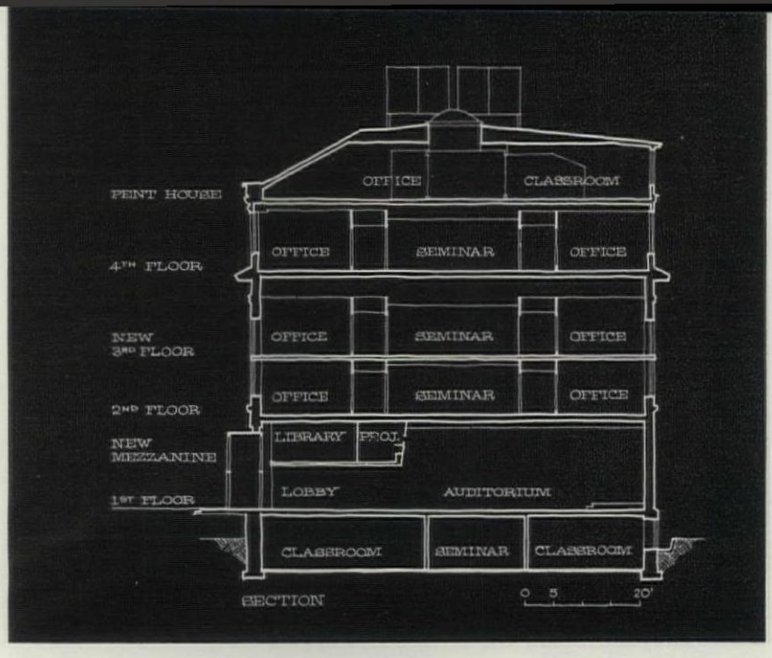


FIRST FLOOR
AFTER

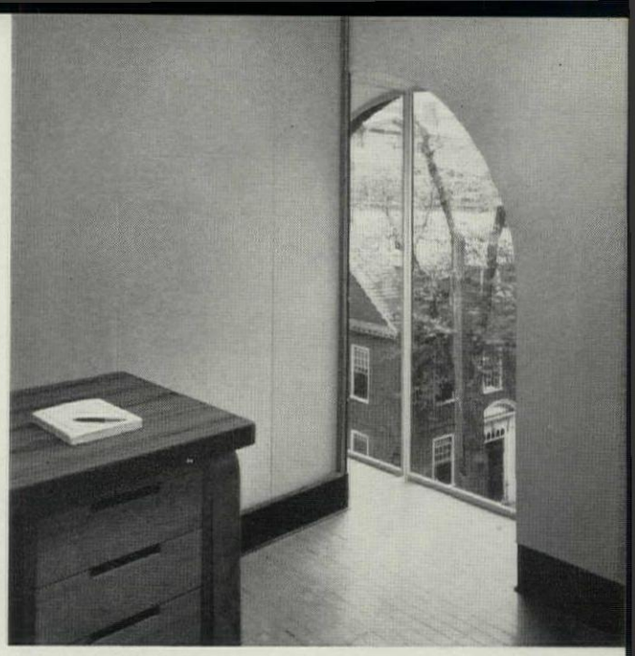


FIRST FLOOR
BEFORE

Plans before and after *demonstrate how space was obtained by filling in the cavernous central stair hall. First floor contains the lounge-meeting room, a lecture hall, and two classrooms. Upper floors (top) are nearly identical, contain offices around a core of utility spaces and seminar rooms.*



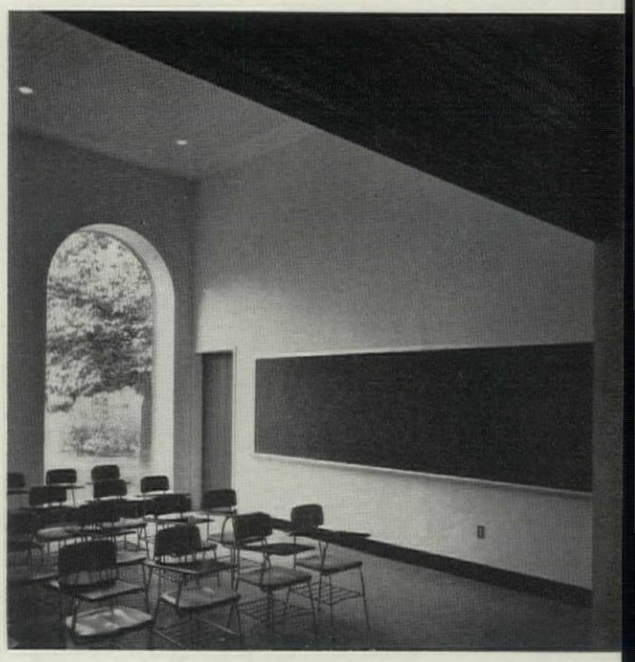
Cross-section *through entrance hall and lecture room shows how a mezzanine was fitted into high-ceilinged first-floor space and a new office floor was fitted into the upper reaches of the former second floor. 14,094 square feet were gained.*



Window detail *illustrates how old arched openings provided light for four offices. Arched opening is cut horizontally by new floor, split vertically by new 1½-inch gypsum partitions. Mirror on partition in arch adds apparent size to window.*



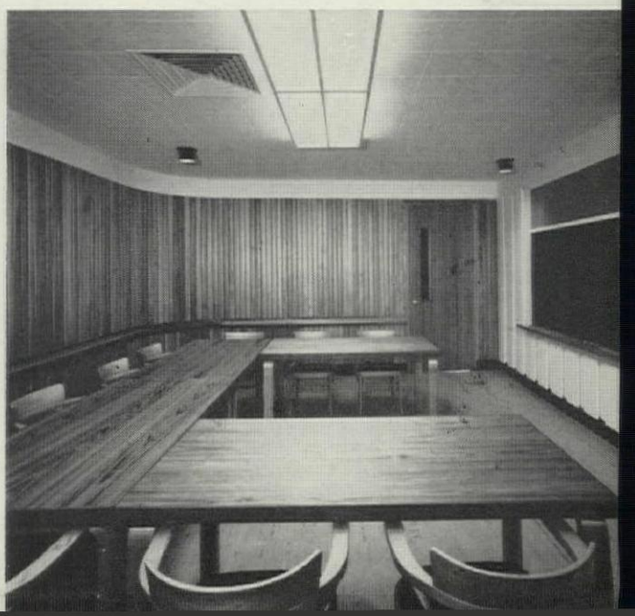
Lecture room *(above) seats 160 in theater-type seats.* **Audio-teaching room** *on ground floor (photo below, plan not shown) is used for instruction in languages. Instructor can "broadcast" tapes into any cubicle, "tune-in" on individual recitation.*



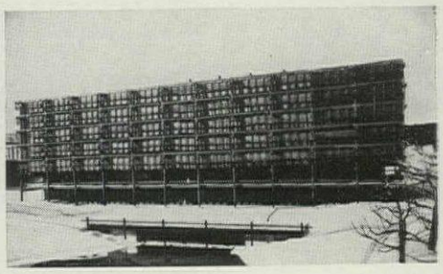
First-floor classroom *(above) is finished with white plaster walls in contrast to smaller* **seminar rooms** *on upper floors (below), which are fitted with curved wood-paneled walls that also add space to the surrounding corridor.*



HARVARD NEWS OFFICE





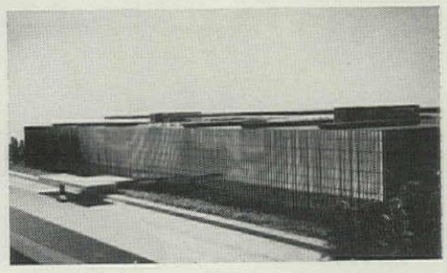


Deere & Co. headquarters.

BALTAZAR KORAB

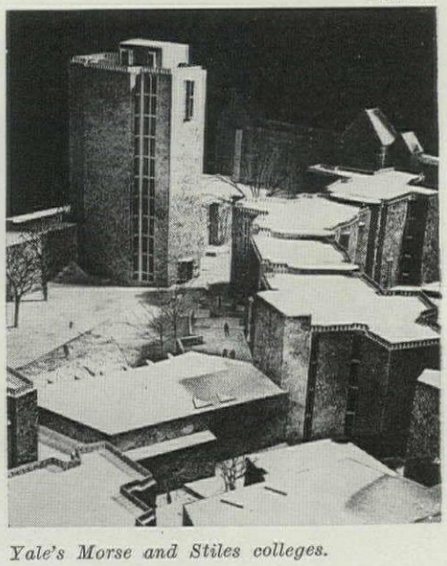


Washington's Dulles Airport.



Bell Laboratories research center.

JOE CLARK



Yale's Morse and Stiles colleges.

Four new projects, each based on the same "six pillars of architecture," demonstrate that wide variations can be consistent.

BY LAWRENCE LESSING

The diversity of Eero Saarinen

Among the younger architects who have risen with great speed and lift in the last decade, Eero Saarinen is unquestionably of the first rank, the most controversial and hardest to place. As one spectacular building after another has emerged from his office, no two looking alike, criticism has mounted that Saarinen is "reaching" for effects, has "no fixed style," is "irresponsibly" adding to the riot of U. S. forms.

From the great rectilinear exercise of his General Motors Technical Center (1948-1956), probably the most influential industrial architecture of this era, Saarinen went on to mold the curvilinear, domed M.I.T. auditorium (1955), the first sophisticated use of shell construction in the U.S., and the swooping, cable-hung Yale hockey rink (1958), a great whale of a building set down in New Haven's genteel purlieus. Currently, the intricate concrete formwork of his "flying bird" TWA jet terminal is startling transients at New York's Idlewild Airport, while his sedate new U.S. Embassy in London, elegantly fitted into a Georgian-style square, awaits dedication. Meanwhile, moving through Saarinen's busy office are four major projects (left), even more diverse in character.

At the center of this diversity is a stocky, calm, blue-eyed man, son of the late, noted Finnish Architect and Town Planner Eliel Saarinen, who at 50 has gone beyond his father in works accomplished. Easy mannered, lively, without "side," the younger Saarinen combines a puckish sense of humor with a driving competitive force, ambidextrous virtuosity with an intense seriousness about architecture. Below the diversity lies a cool rationale for an advancing architecture. To carry out this rationale, Saarinen has been building an organization for the practice of what he calls "responsible" architecture, unique in two ways. It is more oriented toward research than any architectural office of its kind, carrying on research from the original analysis of a client's problem through the testing of design solutions and materials—even to the development of new materials or components (see page 102)—down to the final execution. And this research in turn is used to engage the client in advancing architecture, by showing him how it more closely fits his needs.

Where Saarinen stands

"To the question, what is the scope of architecture," said Saarinen in accepting the Dickinson College Arts Award last spring, "I would answer, it is man's total physical surroundings, outdoors and indoors." He believes that the architect, by historical accident, is practicing in only a narrow segment of his full range, but that he may soon be called upon to widen his role and purpose, which ideally is to shelter and enhance man's life on earth.

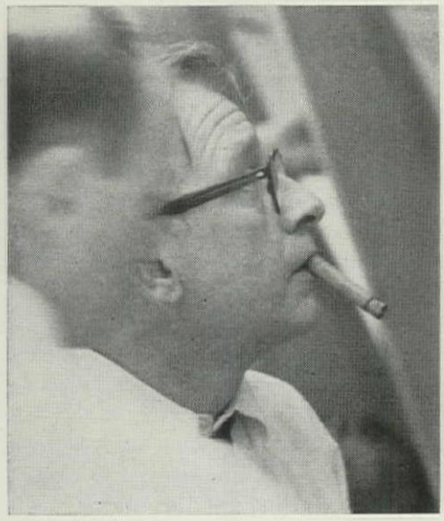
In the same revealing speech, Saarinen analized the sources of his own diversity. Modern architecture was raised on three great pillars: functional integrity, honest expression of structure, and awareness of the times, especially the new potentials of science and industry. And these principles were raised to great heights by three diverse masters: Wright, LeCorbusier, and Mies van der Rohe. Their hegemony differed in different parts of the world, Corbu being strongest in the Latin countries and in concrete, while Mies's "marvelous discipline" in metal and glass came to dominate the heavily industrial U.S. In the exciting technological and emotional release following World War II, some younger architects refused to stop there. They refused to believe that all modern architecture—an airport, a skyscraper, a girl's dormitory—could be contained in the same rectilinear metal-and-glass jacket or "universal style" that Miesian purists were advocating, but that the future must remain open to the exploration of new forms and principles. Three additional pillars were raised: that a building must make an expressive statement, that it must be concerned with site and environment, and that it must express itself throughout as a unity.

Saarinen was aligned with this new generation from the start, for he had imbibed from his eclectic father a strong resistance to being trapped by a style. "I believe," he said at Dickinson College, "that all six principles have to be included to create real architecture and so I try to practice what I preach. The inclusion of the last three inevitably creates a diversity of solutions, and thereby the external form of my work varies greatly. But inside the solution of every problem there are six threads that hold it together, and these six threads — or was it pillars I was calling them—join each building I have done to every other one."

The problem of style, oscillating between petrifaction and undisciplined chaos, is eternal. But the greater danger today, in an age of transition and of continuing dynamic development in science and technology, is that modern architecture may be prematurely frozen before realizing its full potentials. One of the most obvious potentials to Saarinen is concrete, only the surface of which has been scratched so far in research, prefabrication, and "a whole new form world" for architecture. Many architectural firms maintain at best only an uneasy, arm's length truce with technology. But in Saarinen's office, technology is wrestled with on the bare floor to seek understanding and use of its great potentials.

How Saarinen works

The general pattern of the movement of a project through Saarinen's office is instructive. Charles Eames, close friend and competitor of Saarinen in furniture design, describes him as "one genius in whom you can see the gears working because they're on the out-



side." There are no secrets. Involved in the process are indefatigable studies of a problem from all aspects, carefully thought through, then hundreds of experimental studies of elements in the building, alone, in combination, and in combinations of combinations. No picture of the process can be more than a stop-motion study of phases going on simultaneously and varying widely in length with the nature of the problem. The major phases are:

The functional program. By this is meant exhaustive surveys of statistical data, work procedures, use patterns, human requirements, site features, and so on — called operational research in the sciences — to establish what the client really wants and needs (which may be something quite different from what he thinks) and can afford. The Dulles Airport project (page 98) contains the most complete example of this phase, which took roughly six months.

Expression of the program. Given the functional needs, the nature of the client and the site, what statement is the building to make in an architectural sense—general form, assertive or adaptive, smooth or rough, etc.? The search is for a controlling concept, which may be, as in the Deere project (opposite), simply an incisive image: "An iron building for a farm machinery manufacturer." Here Saarinen's intuitive sense, the only mystery in the works, cuts through to take the lead. Here, or earlier, model-making begins with a scaled cardboard model of the site and environs, general building forms, for study in three dimensions.

Structure. In this phase exploration goes on as to what general species of structure is needed—long span or short, high or low, steel or concrete, etc.—taking into account mechanical considerations and engineering aspects. All along informal ruminations have been going on, with Saarinen's technical people brought in, on what materials, components, or new ideas may feasibly fit the concept. More and more cardboard models are built, torn up, and rebuilt, as choices narrow.

Design. This generally begins early, but the actual climax of design usually takes place only after all the basic problems have been thrashed out. Saarinen moves in strongly to harmonize the elements, as his design team builds and rebuilds a master model. Saarinen's methods differ from the conventional in two ways. He separates problems out for solution before total design, and then does over 80 per cent of that design in the round on working scale models. This technique, which Saarinen has carried over from the Renaissance into an entirely new design method, is particularly important for the development of new forms.

How Saarinen is organized

The organization behind all this has been described as a "benevolent monarchy." Around Saarinen, however, are three close aides and partners: Kevin Roche, a brilliant young Irish architect, who came in on the G.M. Technical Center and now heads the design department; Joseph N. Lacy, who heads management and the business office; and John Dinkeloo, who is the resourceful head of the technical department, which includes materials development, production of working drawings, and cost estimates, recently strengthened to bring projects in closer to budget. Operating under these is a string of design captains and project managers, the firm's associates. Altogether, the staff now numbers some 80, notable for its youth and bounce. Eero moves without title from project to project, trailing cigar ash, pipe smoke, matches, Granger tobacco packets, and reams of tracing paper, seeking perfection.

Currently, Eero Saarinen and Associates has three projects in active design and three moving in construction, for a total value of some $110 million, which is about capacity for its mode of operation. Growth and model building crowded the firm out of its original design shed in Bloomfield Hills, Mich., and into makeshift quarters in a neo-Colonial wing of the local Pontiac-Cadillac dealer's establishment in nearby Birmingham, in which it is already overcrowded. The firm is doing more of its own civil engineering, but for structural and other engineering it relies on such creative outsiders as Ammann & Whitney, or Weidlinger, or Severud, plus top consultants in such specialties as lighting, acoustics, and traffic. Critical to this kind of advanced architecture are client relations, which Saarinen handles with finesse, particularly in dealing with large corporations, drawing these in sufficiently, backed up by research, to engage in the problem, yet not too far to lose architectural control. To bear the out-of-pocket costs of its "exhaustive approach," the firm uses all forms of contract, as called for, from the traditional percentage fee through lump sum to cost-plus-fixed-fee contract.

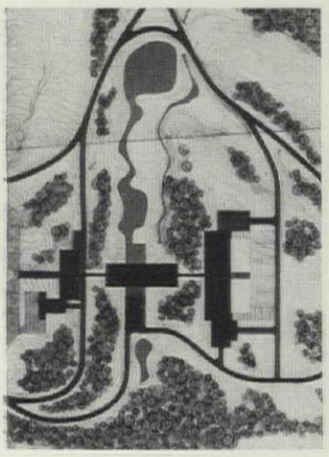
This is not inexpensive architecture, though economical in the best sense. Unlike the typical firm, behind whose façade the business department is in control, in Eero Saarinen and Associates there is never any doubt that the design department rules. Occasionally, the pursuit of new designs, research, and extra services eat into earnings, but over all the firm is flourishing. On the next five pages are shown some of the products of diversity. These break down basically into two broad forms: the rectilinear, which still meets the problems of the bulk of building and in which Saarinen can perform to the purist's taste, and the curvilinear, in which new forms abound.

AN IRON BUILDING FOR FARM MACHINERY

This headquarters building for Deere & Co., to cost over $10 million, was conceived as "an iron building for a farm machinery manufacturer," with a strong, dark, steel structure to express in primitive and boldest form the character of the company and relation to the site (1), a darkly wooded ravine near Moline, Ill.

For this structure, Saarinen's group searched widely for and found a special, high-tensile alloy steel, used in some engineering structures but never before in major building, which has the property of rusting only to a certain depth, acquiring thereafter a protective, darkly rich, cinnamon patina. A mock-up structural section on the site, to test its color and weathering qualities, showed that this was the material to fit the concept.

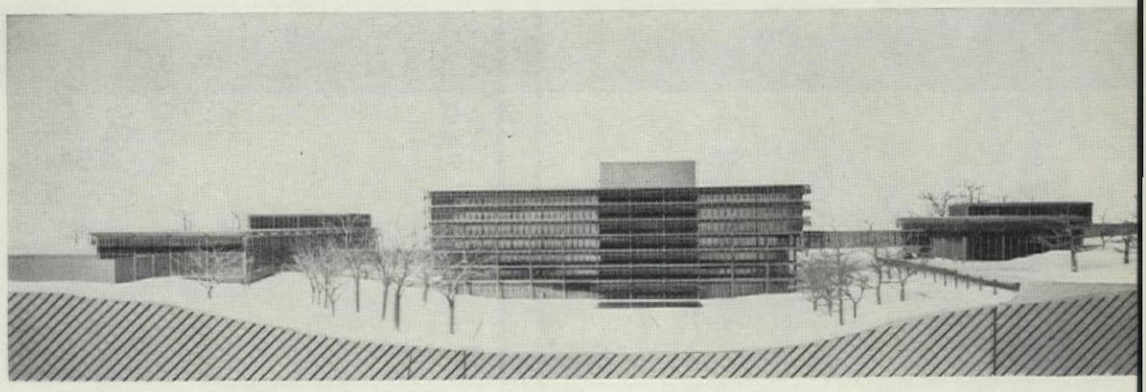
The new steel's tensile strength allows the structural system to straddle the ravine on 120-foot trusses without diagonals (2, 3). It also makes possible ruggedly slender beams and columns, requiring no finishing inside or out. The bare steel, a brownish-black brick, and a new, lightly reflective glass—with glazing held only by neoprene gaskets directly against the steel—comprise the building's basic elements. These are "repeated and exaggerated and overstated," even to the use of rough steel strips as sun baffles (4). Engineer: Ammann & Whitney.



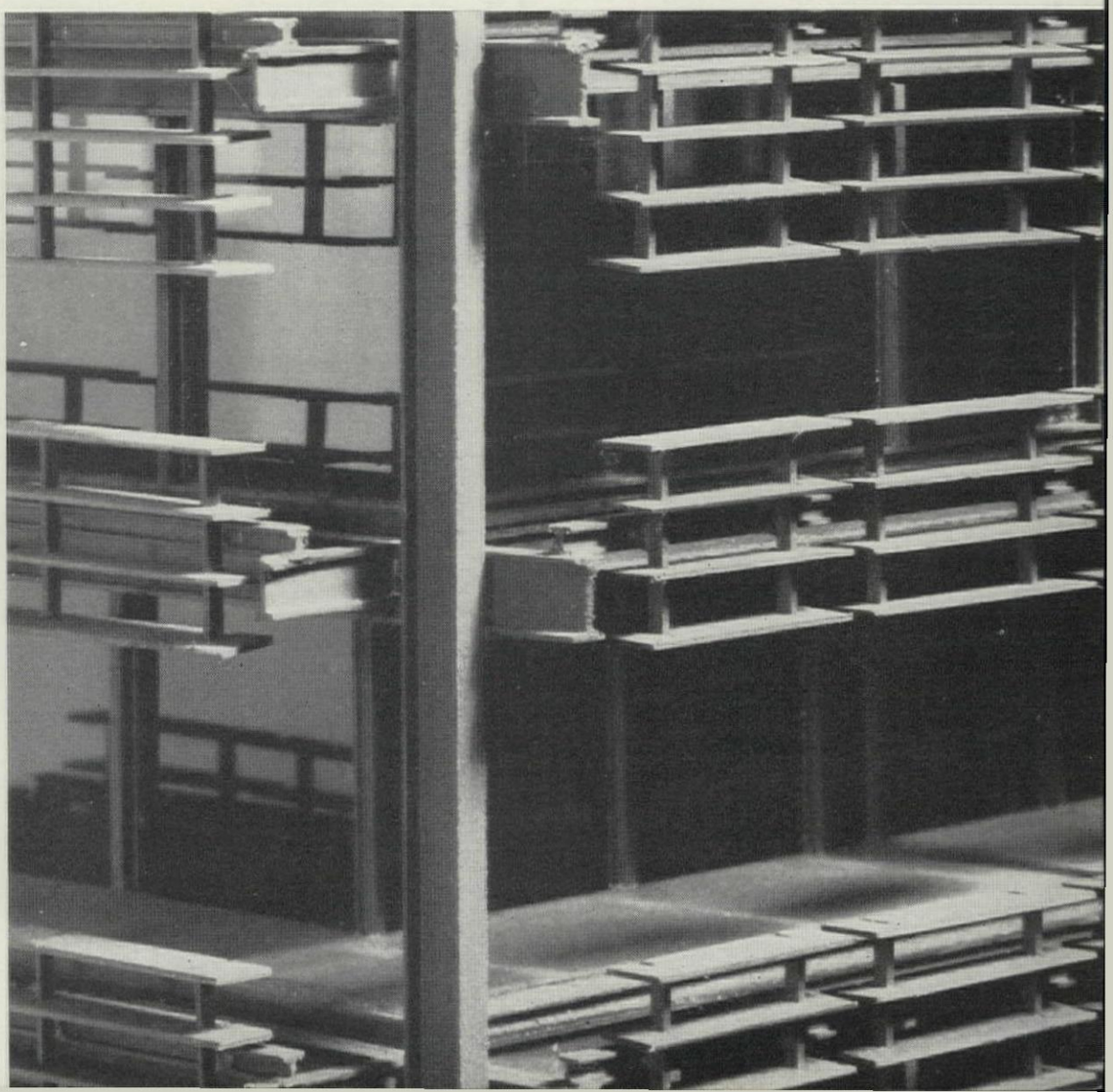
1



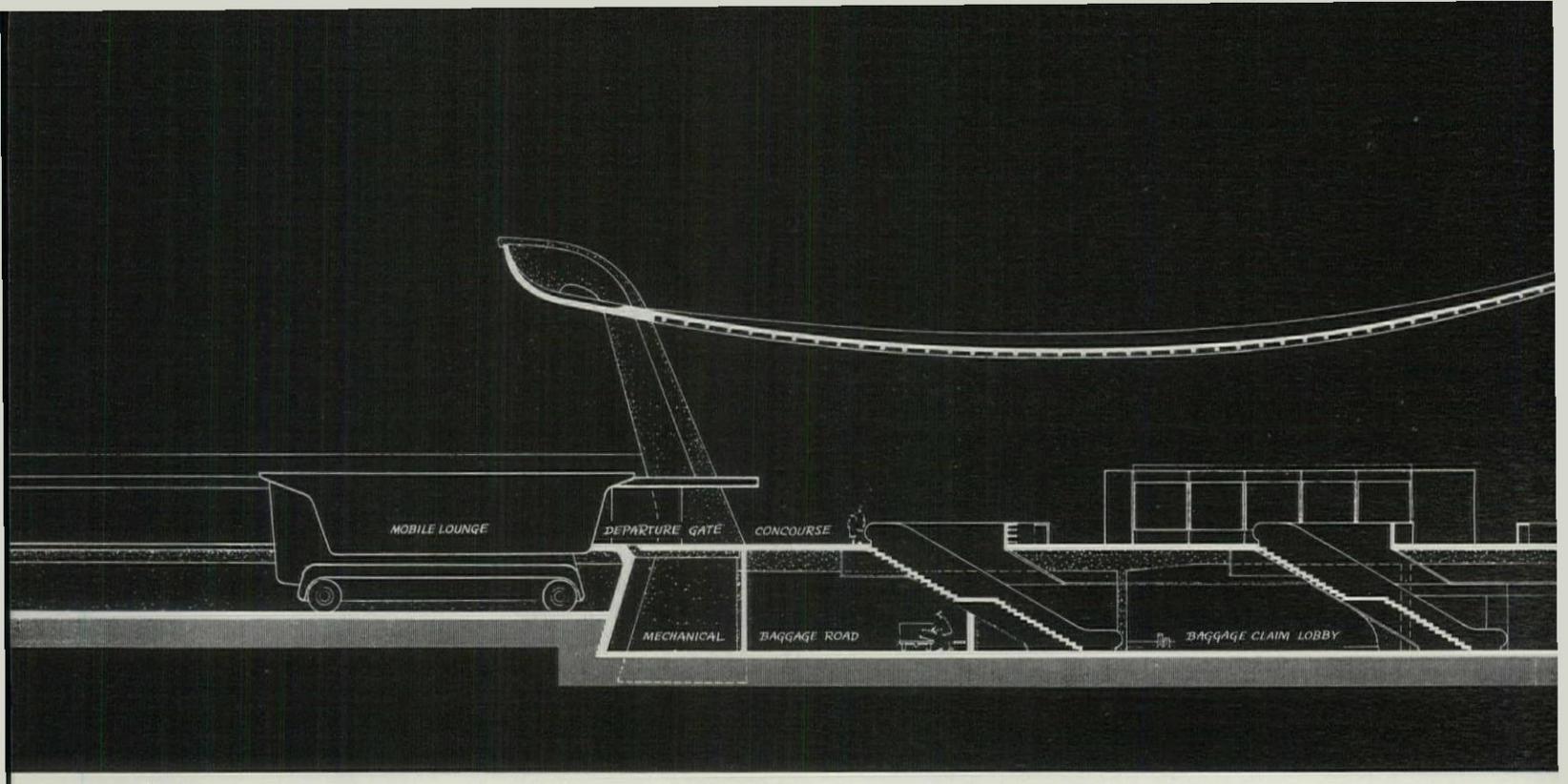
2



3



4



1

A MACHINE FOR JET TRAVELING

For Washington's new Dulles International Airport, on 9,800 acres of rolling farmland in Virginia (1), Saarinen's primary concept was a highly functional terminal building to ease and speed the transit of passengers, the whole given a monumental lift befitting jet travel and the character of the nation's capital. The entire building and service complex works to this end (see cross-section). In scope, it may well be the most influential of Saarinen's designs since the G.M. Technical Center.

Saarinen first decided that the big jet airport was not yet solved anywhere. He began from scratch, with batteries of stop watches and counters, to clock flights and crowds at terminals, find out what travelers do, measure time cycles, and reduce all data to basic charts. These, coordinated with official traffic-rate projections, soon showed that the common finger plan of jet ports was already stretching corridors to enplaning points out to time-consuming walks of a mile or more. The critical area to be cut by design was the time and inconvenience of getting passengers to and from the planes.

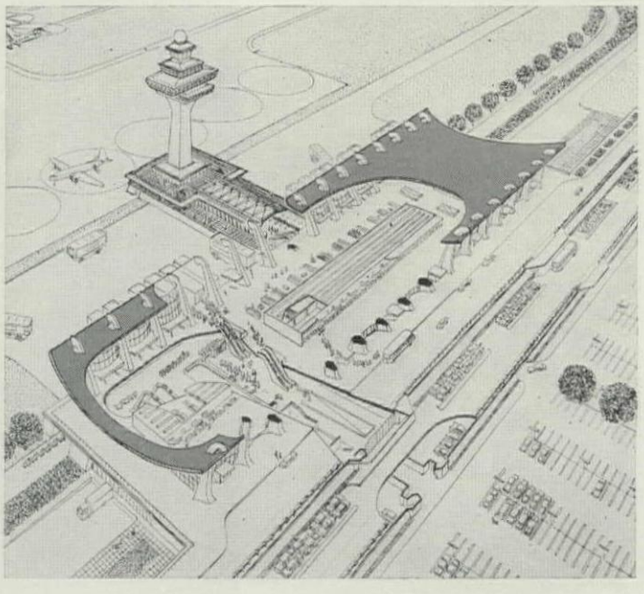
Saarinen's novel solution was the "mobile lounge," an idea borrowed and refined from the European airport bus. Lounges would back into and become part of the terminal building to take on waiting passengers, then move out to plane stations near runways and discharge passengers through a front-end flexible coupling directly into the plane. Time and motion studies proved this the fastest and cheapest of all proposed enplaning devices. This radical idea, however, had to be sold to 12 individualistic airlines, and for this Saarinen commissioned Charles Eames to make a colorful, animated movie "short" that pounded home the primary problems and principles of passenger convenience.

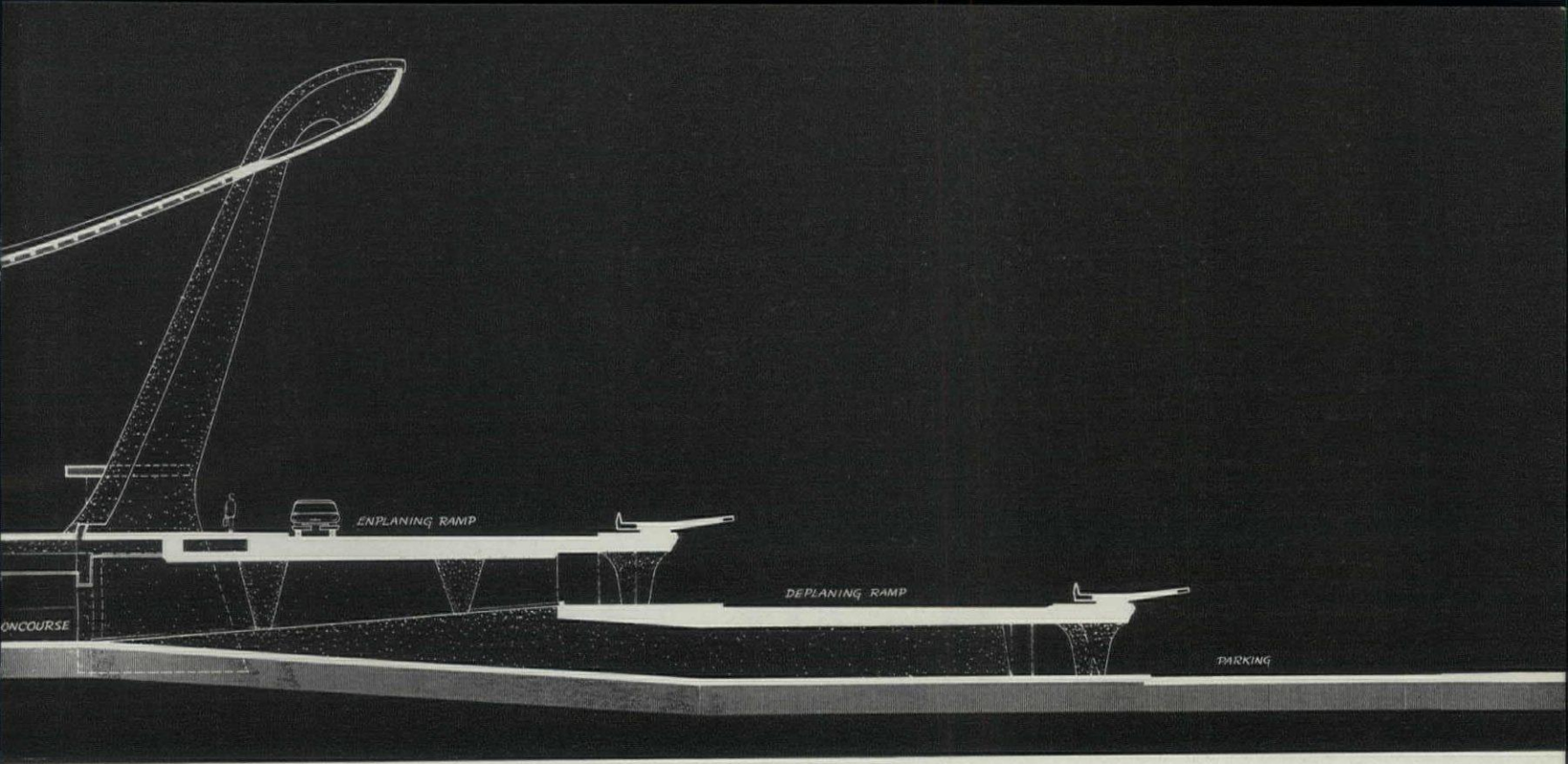
The mobile lounge was the key to the design plan (2). With it, planes could be conveniently grouped around service cores on a mammoth apron near runways, cutting down expensive taxiing and allowing underground piping in of fuel, expected to reach requirements of 1.2 million gallons a day at Dulles Airport by 1975. And for the terminal, mobile lounges allowed a single compact building, with all services, restaurants, shops, and the like conveniently concentrated. This concentration cuts walking distances from arrival point through check-in to passenger lounge, on almost a straight line across the building, to an average of less than 300 feet.

The esthetics of the building, set on the great flatness of an airport site, were based in Saarinen's mind on the image of a hovering slab. To give this a soaring, monumental quality, it was conceived as a great, cable-hung, concrete roof slung like a continuous hammock between two rows of giant, gracefully bent concrete columns (3). This creates a single great room, 150 feet wide, 600 feet long, and 40 to 65 feet high, designed on two levels—the upper for enplaning, the lower for deplaning passengers—extensible for future expansion (4).

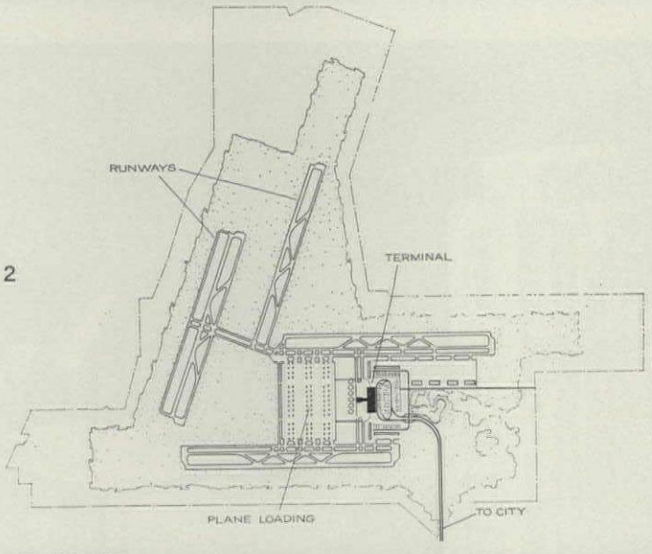
Prime contractor: Ammann & Whitney. Mechanical engineering: Burns and McDonnell. Associate architect: Ellery Husted. Traffic and economic consultant: Landrum & Brown.

4



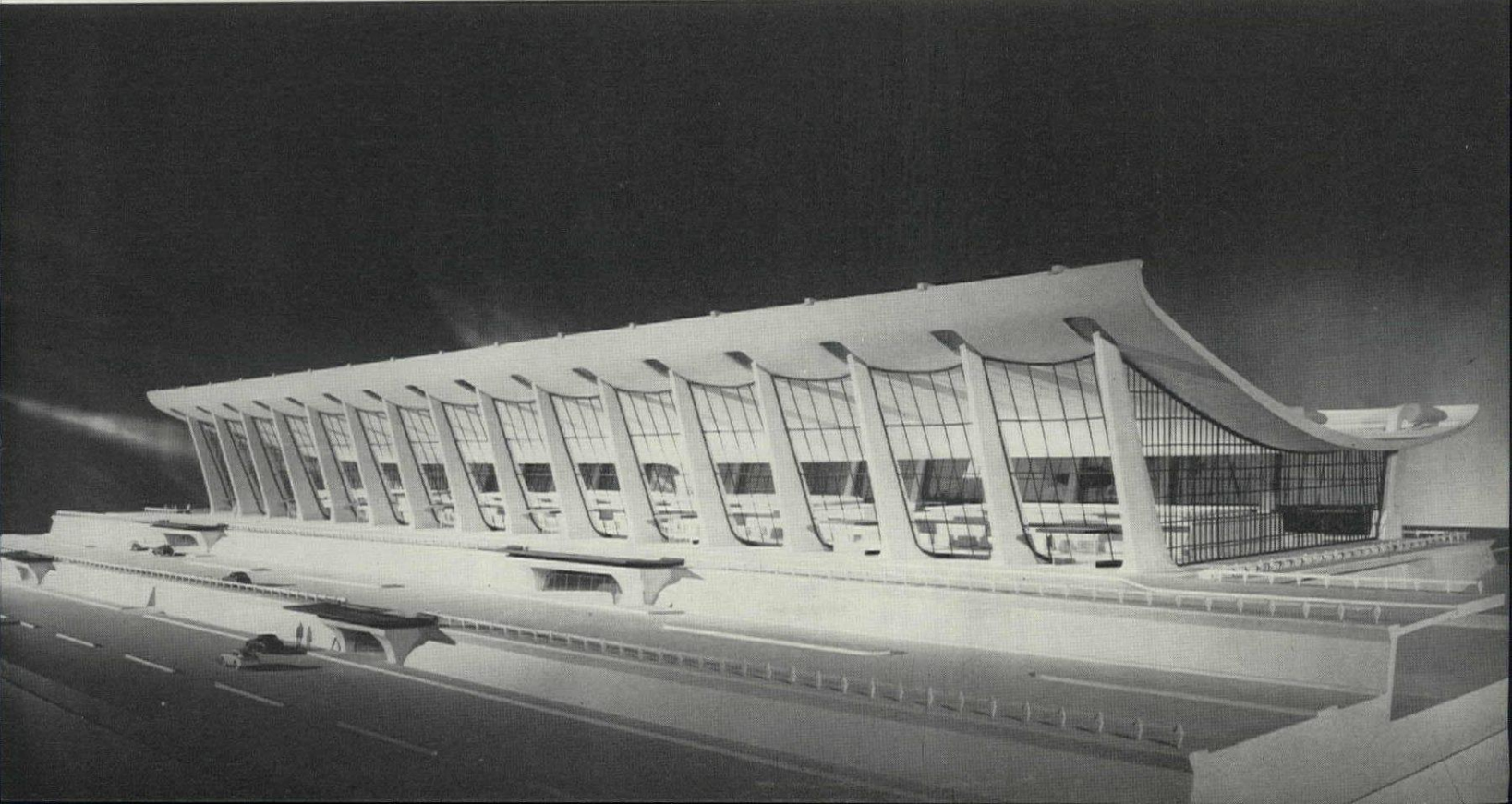


2



3

BALTAZAR KORAB



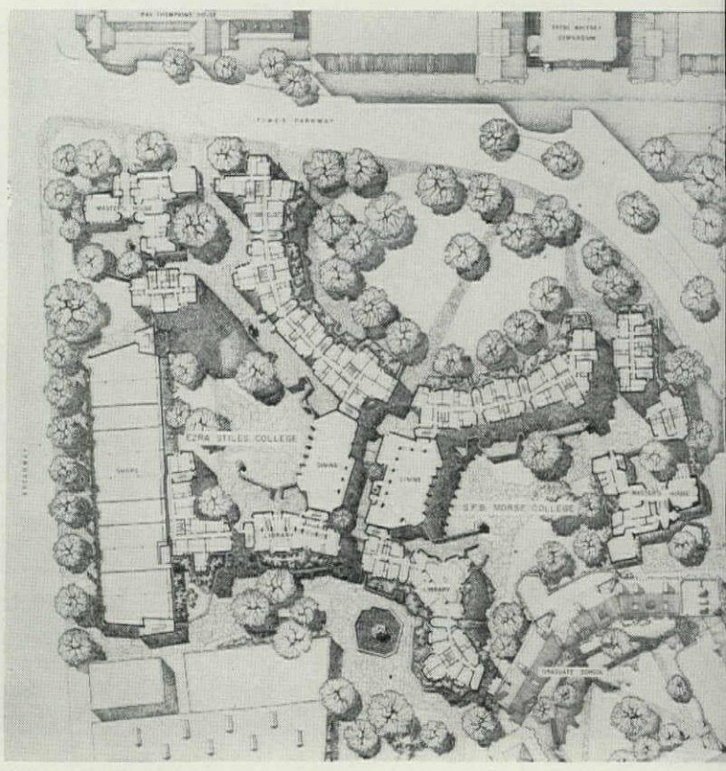
MODERN MEDIEVALISM FOR YALE

In two new colleges for Yale University, to be built at a cost of some $6 million, Saarinen put himself to the difficult task of adapting to a cramped, asymmetric site (1) between two neo-Gothic rock piles of earlier vintage, and to a social purpose reoriented toward individualism, monastic study, and academic life. This adaptation raised the devotional concept of a rough-textured, staggered series of polygonal dormitories, dining halls, and masters' quarters, to be modern yet medieval in flavor (2), the opposite of repetitive conformity and slickness.

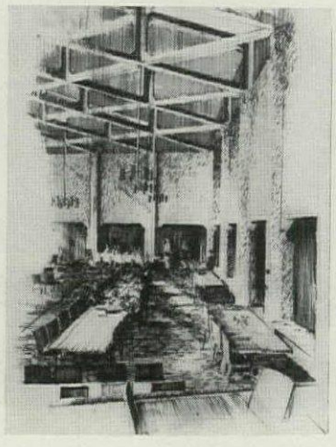
Searching for the material form to carry this concept to its ultimate conclusion, Saarinen took up an ancient building method called rubble construction, observed in a modern revived form in Norway, and directed his group to find a means of adapting it to larger stones and mechanizing it for economic U.S. construction. The result is a masonry bearing wall that goes up rapidly—stone rubble is dumped into wall frames, injected with cement mortar under pressure, then pressure-hosed after setting to get a rough, freestone effect —retaining an unplumbed air of the ages. Saarinen thinks it will be adaptable to many modern uses.

To intensify the concept, these rubble walls for the new Samuel F. B. Morse and Ezra Stiles Colleges at Yale (3) will form an amazing series of individual, odd-angled rooms, no two alike in shape or dimensions, each with its focal point a study desk instead of the traditional fireplace. All this to stress individualism, work, and a linking of past with future in a grammar of new forms and shapes that is quite unlike anything Saarinen has done before.

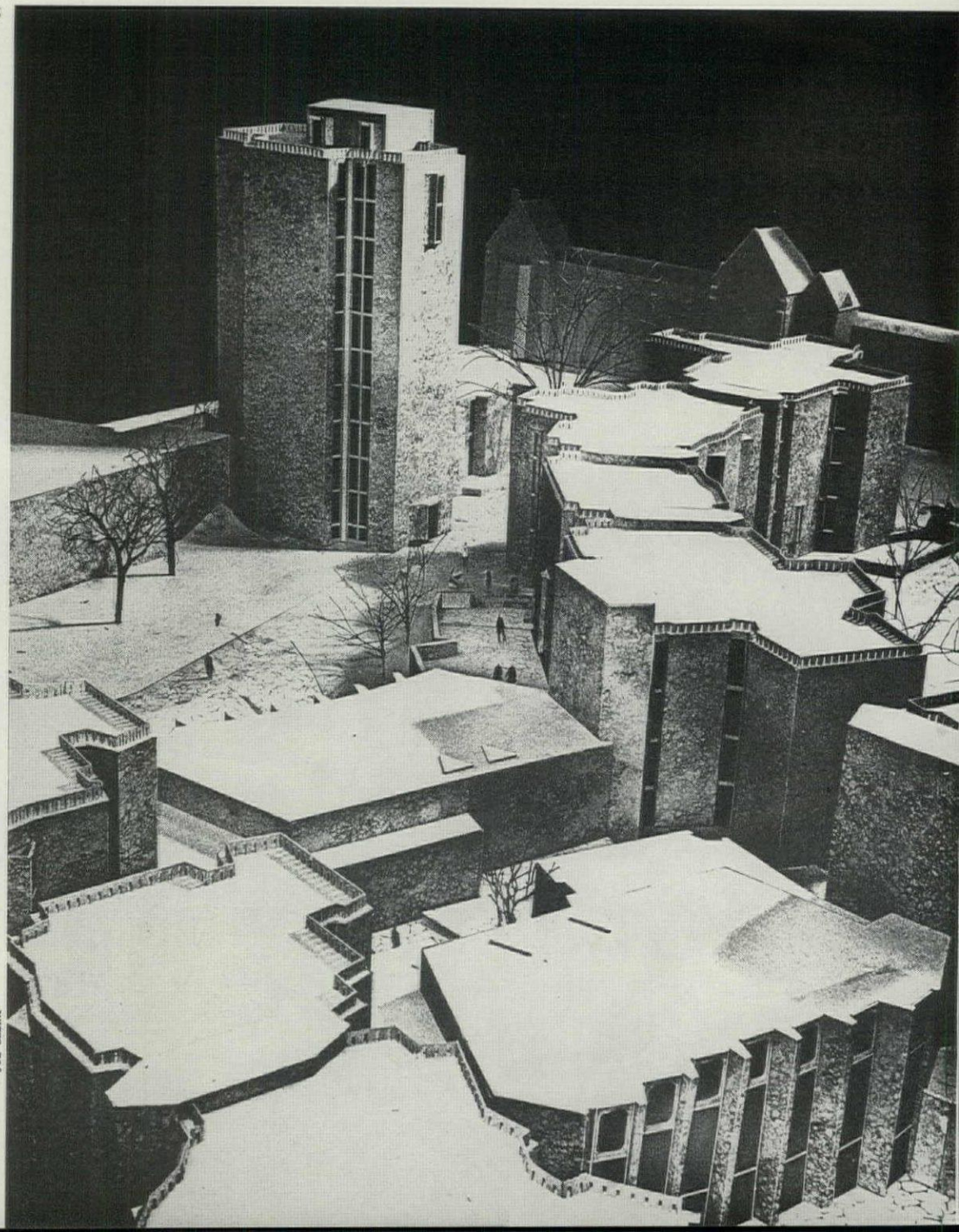
1



2



3



JOE CLARK

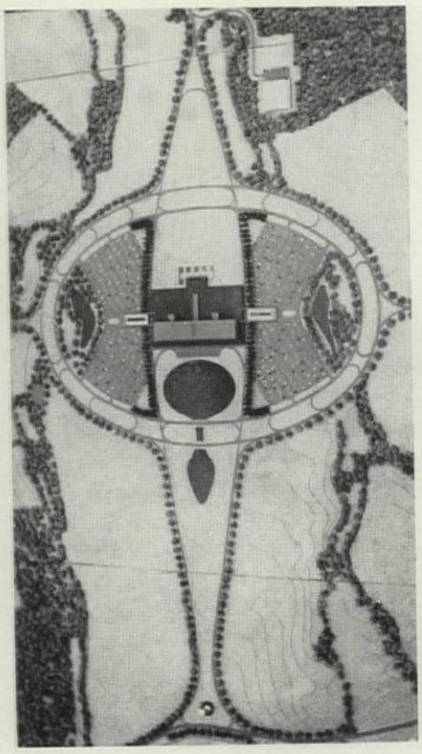
MIRRORED LOFT FOR A LABORATORY

In a new research center for Bell Telephone Laboratories at Holmdel, N. J. (1), eventually to contain over 1 million square feet of floor area, Saarinen has raised into a guiding concept a radically new big block or loft plan for laboratories (4). The same plan, in a quite different design, is being used by Saarinen for a smaller laboratory (not shown here) under construction for International Business Machines Corp. at Yorktown, N. Y.

Behind the loft plan lies a complete restudy of laboratory needs. For nearly 25 years the modern research laboratory has followed a pattern set by Ralph Walker in his design of Bell Labs' Murray Hill complex: buildings on a narrow finger plan, oriented on a single-corridor axis, in a campuslike setting. But as research has grown, corridors have stretched out (up to 1,750 feet in one Murray Hill extension), stretching services and communications. More importantly, in the interim, the rise of air conditioning, high-level artificial lighting, and research needs for controlled environments, privacy, and greater intercommunication made the finger plan wasteful and obsolete. Saarinen turned to the big windowless block plan to effect at one stroke economies in construction, concentration of utilities, flexibility of space, and shorter communication lines.

In the great box Saarinen conceived for Bell Laboratories, offices and research spaces are sequestered on short cross-blocks in the windowless interior, while the main corridors, to compensate for the lack of interior view, run like open galleries around the rim of the window-walled exterior (2). This window wall is made possible, without sunshades, by a new mirrored glass that reflects away about 75 per cent of the sun's heat. The new laboratories will be built in two 135 by 700 foot superblocks (3, 4), the first block to be ready in 1961, the whole eventually to house 4,000 science workers.

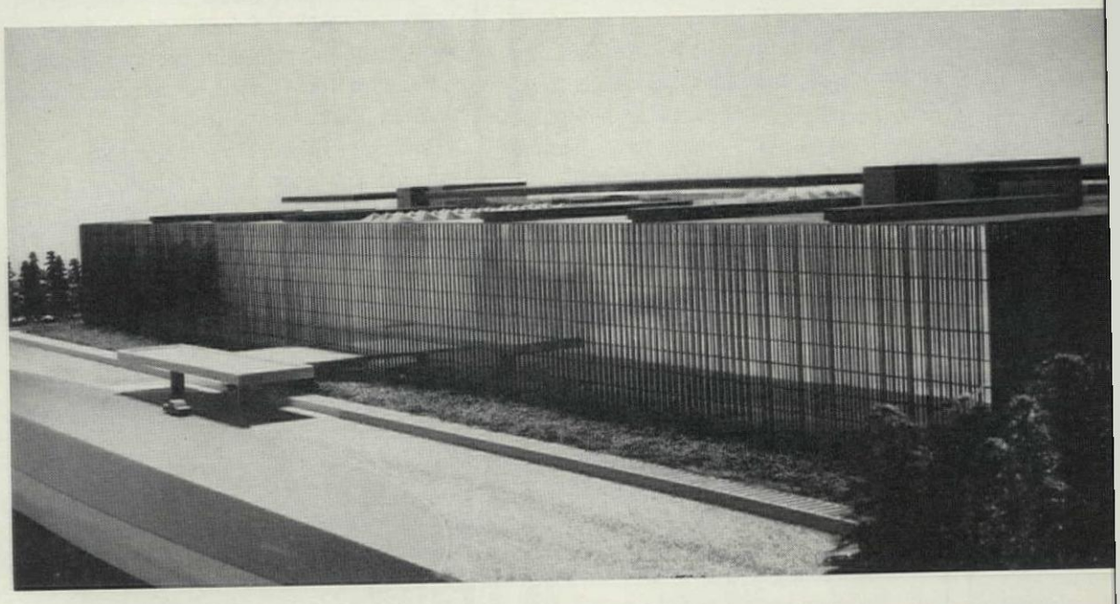
1



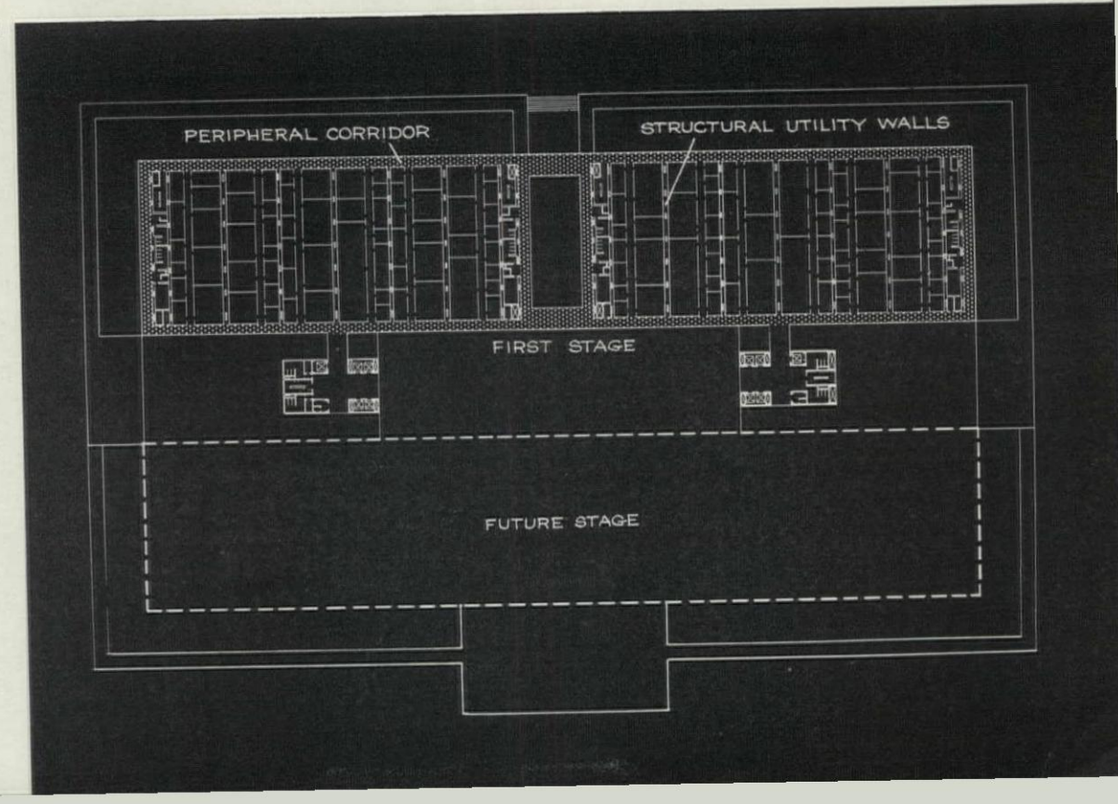
2



3



4



Saarinen's development: materials and ideas

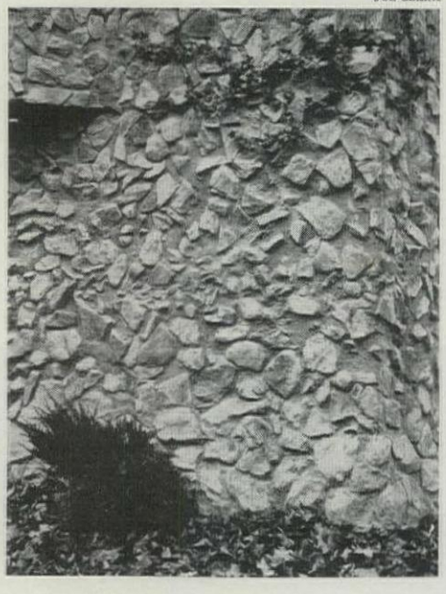
Few younger architects have initiated and developed more new materials and ideas than Eero Saarinen and Associates. This deep concern with industrial materials and processes was once a vital part of the modern movement, weakened today by advocacy of a single set of materials and overdependency on stock catalogues. Yet the building industry cannot be depended on for original developments. Many of the developments following were secured outside the building industry, often after having been turned down by its largest units. Generally, Saarinen finds, the larger the company, the less it will risk on a new idea. He does not claim any of these ideas as wholly original, and has never tried to patent or exploit them, but many have become flourishing businesses for others.

Curtain walls and gaskets. Perhaps the most familiar development of Saarinen's office, out of the G.M. Technical Center, was the first curtain-wall system, integrating porcelain-on-steel sandwich panel, frame, glass, and neoprene gasket. For the idea of gasketing, now the leading method for sealing panels and glass against leaks, he reached into the automobile industry. Finding no takers for gasket manufacture among regular calking compound sources, he got G.M.'s own Inland Division into it, where it remains a growing business. For the porcelain panel, he went to the ubiquitous American gas station and suppliers. When the first panels showed a troubling tendency to delaminate, Saarinen's Dinkeloo turned to the Wolverine Porcelain Enameling Co. of Detroit, which quickly developed a panel that worked. Soon after, Dinkeloo found a company ready to try a new idea of laminating porcelain-on-aluminum, a combination with still greater potentials. This was a small Connecticut firm, Hamlin-Stevens, Inc., which was living on the sale of green porcelain-on-aluminum strips to band Texaco service stations, and which since has turned the bulk of its expanding business to building panels.

The Saarinen office has not ceased to refine its curtain-wall ideas and to experiment with a variety of sandwich panels. One of these is a new metal-to-metal laminate—a thin porcelainized aluminum sheet rolled to flatness and then laminated ripplefree to a thicker undersheet for rigidity—which will be used in a black matte finish to sheath Dulles Airport's control tower because it can be worked or rolled into curves without cracking. In another development, the 2-inch-thick G.M. sandwich panel has been reduced to a wafer-thin 5/16 inch—porcelainized aluminum sheets on asbestos cement core—for the lightest curtain wall yet (3 pounds per square foot), used on a new IBM plant in Rochester, Minn.

Concrete. In working out the rubble-wall or intrusion-wall technique for the Yale project, Saarinen's Dinkeloo hunted at wit's end for a concrete firm

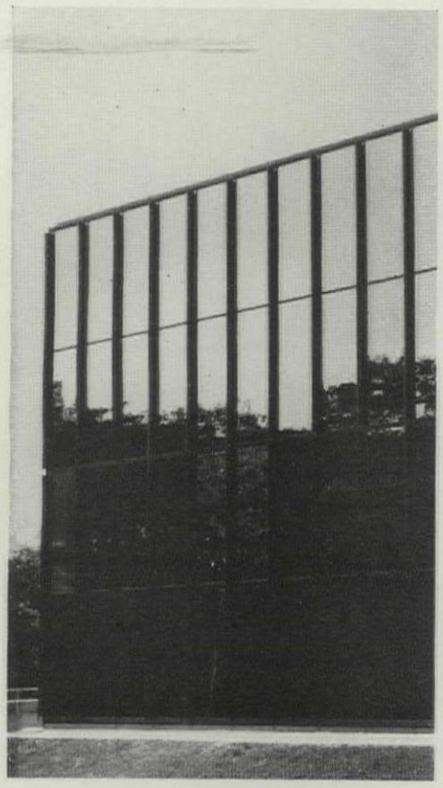
JOE CLARK

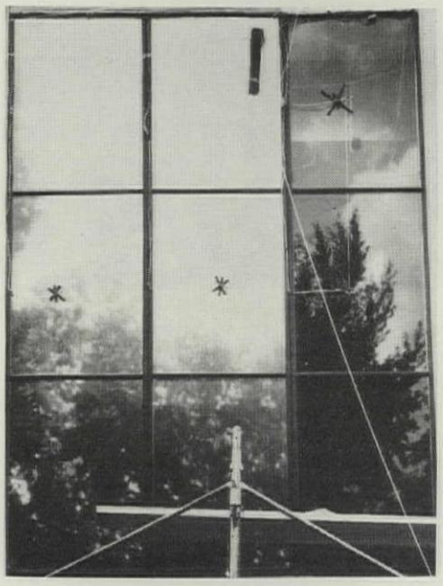


willing to try it, finally remembered hearing of an obscure firm, Prepakt Concrete Co., that repairs dams and other works by pumping in concrete around rubble. He tracked them to Cleveland, and they are now enthusiastic collaborators. The main trick is to use an expanding agent in the grout to prevent it from contracting on setting, thus tightly bonding the stones.

In developing the giant piers for Dulles Airport, a light-colored concrete with a large-sized aggregate inclusion was sought so that, upon bush-hammering, it would have a large-grain, marblelike texture. But orthodox methods of mixing aggregates caused large sizes to segregate unevenly in the mix. A search of the world's concrete literature found only a single, obscure paper from India that applied to the problem: by leaving out the middle section of aggregate sizes, called gap grading, a uniform distribution of large sizes is obtained. The paucity of really basic research and development of techniques in the concrete industry is to Saarinen the main drag on greater use of concrete in U.S. building.

Reflective glass. The idea of a mirrored glass to bounce off a major portion of the sun's heat has been a challenge for some time. But only now has it been carried through to a practical material by Saarinen and Associates, seeking to correct the major technical flaw of the glass building, its immensely wasteful, discomforting hot-house effect. This became possible to Saarinen with the development in space research of highly controlled techniques for the vacuum deposition of ultrathin metal films on space vehicles to ward off radiation. To get someone to try these reflective metal films on glass, Saarinen's office finally worked out a collaboration between the Kinney Vacuum Division of The New York Air Brake Co., which is doing space work, and Laminated Glass Corp. of Detroit, a tiny maker of replacement safety glass for the auto market. The result is a laminate, like safety glass, with a thin film of silvery aluminum or pure gold bonded between the panes for weather protection. Extensive tests show that this reflective film rejects some 75 per cent of the sun's heat (against about 40 per cent heat-rejection by absorption types of colored glasses) at 25 per cent light transmission, a seeing level about the same as that for glare-reduction glasses. The reflective glass will be used by Saarinen to begin with on Bell Labora-





tories' research center and on John Deere's headquarters.

The introduction of new materials and concepts, Saarinen believes, imposes on the architect the major responsibility of making sure that they work. Hence his obsession with research and exhaustive testing of each new idea, form, or material in models, mock-ups, or controlled experiments, some of which are seen on these pages.

Mistakes sometimes occur in this difficult forward area—to the cawing delight of critics who like to confuse science with omniscience—but every technological problem contains, in the hard-working methods of science, its own ultimate solution or correction. For instance, the M.I.T. auditorium roof began to leak under a new, acrylic plastic coating, lacking in weathering experience, but this was solved on the Yale hockey-rink roof by developing a superior neoprene rubber sheet roofing, while new polyvinyl compounds are coming along which will be used on the TWA terminal shells, where a transparent sealant is required to show the concrete.

The ultimate test is whether a building works. And in this respect Saarinen's buildings rank high, the Yale hockey rink being pronounced by players and spectators alike a superb sports arena, the M.I.T. auditorium being much sought after by performers for high-fidelity recording sessions because of its acoustic quality.

Architecture as development

Esthetic judgments are harder to arrive at. "I believe," says Kevin Roche, with some bias, "that this firm in 30 years will have done the most significant work in the country in expressing the finest relationship between architecture and society. We have the secret of growth. Whereas those who come up against the stone wall of a single form are stuck with it, our approach has unlimited possibilities." That, at least, expresses the Saarinen pride in and philosophy of architecture as a continuing development.

Certainly the more intense critics of this position have little basis for their odd theory that somehow something went wrong with Saarinen after the G.M. Technical Center, since much of his work is still outstandingly in that idiom. Moreover, some of the extreme criticism has that high irrational pitch that invariably greets innovation and new forms, while other tones reveal a plain desire to rest on the plateau of a tried form, endlessly refining it, rather than to make the strenuous effort that is required to develop or understand new ones.

On the other hand, diversity in architecture has the ever present danger of excess, while experimentalism daily courts disaster. Saarinen would be the last to deny that some of his bold excursions have been less successful than others. Moreover, there is a strain of now-native American exhibitionism in him, presaged in his 1949 design for a river-front national park memorial in St. Louis, to be completed in 1964, which has as its centerpiece a giant, Paul Bunyanesque arch, 630 feet high in stainless steel, symbolizing the Gateway to the West. (For this arch, Saarinen is carefully exploring mathematical formulae to get the most perfect catenary curve possible, and a new type of elevator to get people to the top of it.) And running through his later works, particularly the new TWA terminal, the Yale colleges, and the John Deere project, is a new strain of exaggeration, off-beat rhythms, bold underlining of elements and materials, which seems to be in that line of avant-garde development called, for want of a better term, the new brutalism, yet with a lyric and internal harmony that is Saarinen's stamp. This new strain in architecture is still too much in flux for cool judgment, and it is probably a correct assessment that it will take

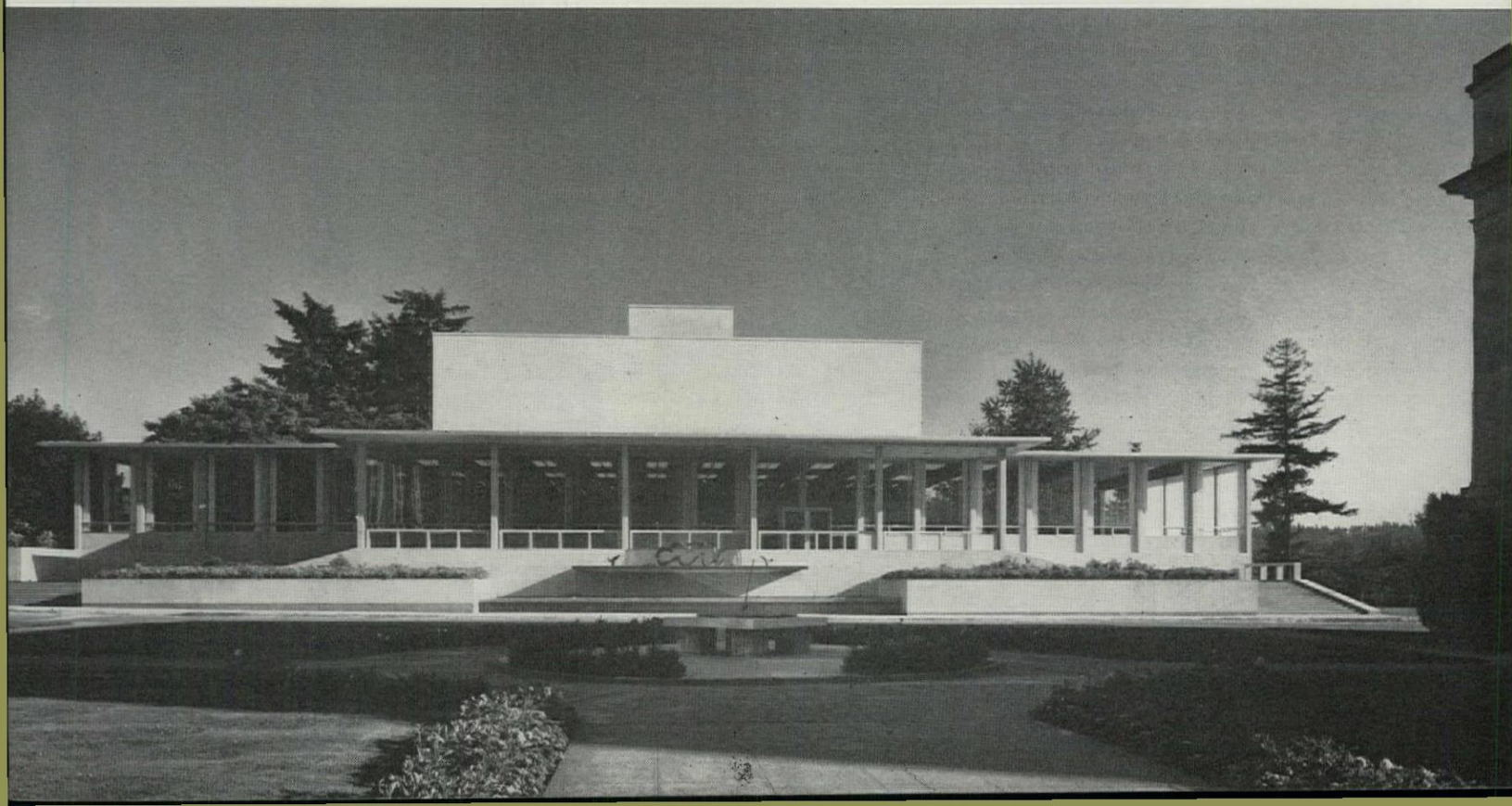


the better part of another decade to see Saarinen's work in perspective in all its relationships between architecture and society.

Meanwhile, it is salutary to have a man of large talents and integrity striving to enlarge the vocabulary of architecture to meet the multiple, fast-changing problems of the age. This is the mark of an open society.

PHOTOS: HUGH N. STRATFORD

Uniform roof line *characterizes all existing buildings around the capitol, and Thiry matched it with the height of his stack tower. This roof line was established to permit the dome of the capitol to be visible at a distance above the lesser buildings surrounding it. Below: the library as seen from the capitol.*



Harmony without imitation

Modern library building faces Washington State's neoclassical capitol in a manner befitting both.

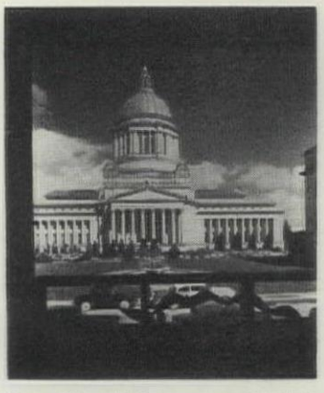
When Architect Paul Thiry was commissioned to design the state library for Washington's *Beaux-Arts* capitol campus at Olympia, he had to solve four problems that are becoming more and more common as new buildings are added to the existing inventory of old buildings worth preserving: first, how to match the scale of the existing campus; second, how to fit into the existing composition; third, how to conform to existing materials and details without imitating the past; and fourth, how to achieve monumentality and government character in a modern idiom.

Thiry solved these problems with remarkable success: although his library had to be considerably smaller than the existing buildings on the campus, he matched their scale by placing his building on a higher site. Next, he located his building on axis with the domed capitol, thus completing the *Beaux-Arts* composition (originally conceived by Architects Wilder & White around 1912) and closing off a heretofore nondescript vista with an imposing addition to the campus. Third, he used the same sand-limestone employed by his predecessors and developed numerous lesser details (such as the recessed panels under windows) that recall the classical idiom without copying it. Finally, he created a formal, near-symmetrical structure, fronted by a colonnade and raised up on a pedestal —thus suggesting a sense of dignity, monumentality, and repose that spells permanence and government.

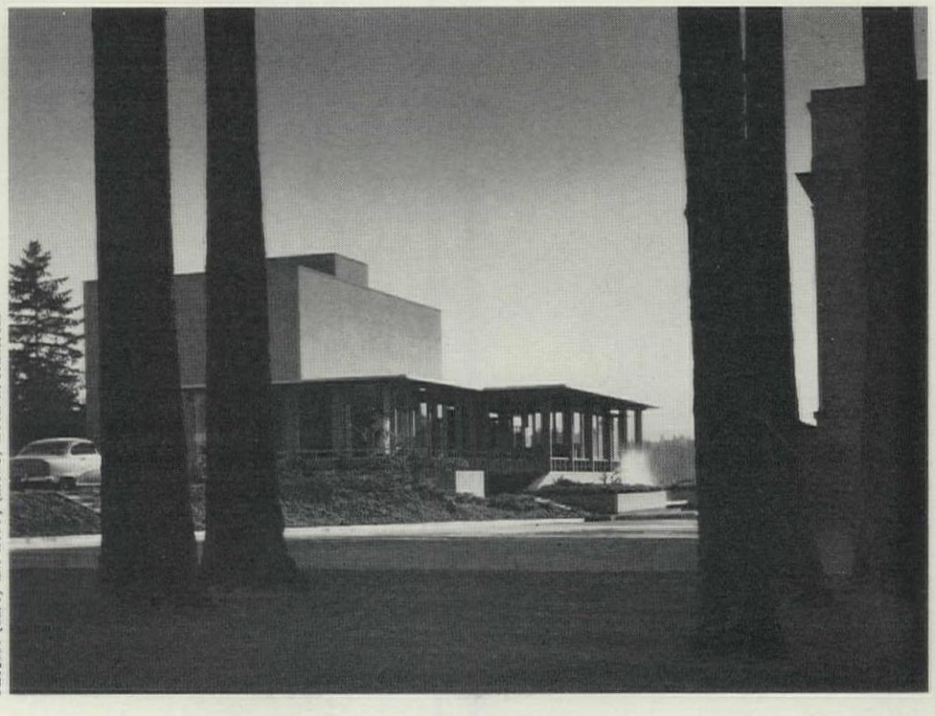
The state library is to the state capitol what the Library of Congress is to the federal capitol—a place in which records and documents are kept, largely for reference use by the legislators. The main floor is the principal public area, ea ily controlled from the main desk. Documents and reference books are stored in the seven-story stack to the rear of this glassy, public space. The new facilities will be adequate for another 20 years.

The library has been a striking success, and those who were skeptical about the possibility of relating a modern building to a neoclassical campus have now changed their minds. Because of this success, Architect Thiry has been retained to develop a new master plan for the state capitol grounds, to meet the needs of the future.

WASHINGTON STATE LIBRARY, Olympia, Wash.
ARCHITECT: Paul Thiry, F.A.I.A.
LANDSCAPE ARCHITECT: Otto J. Holmdahl.
INTERIOR CONSULTANT: William Teeter.
STRUCTURAL ENGINEER: Peter H. Hostmark & Associates.
ELECTRICAL ENGINEER: Beverly A. Travis & Associates.
GENERAL CONTRACTOR: Lloyd Johnson-Morrison-Knudsen Co.



Domed capitol *was completed in 1928 by Architects Wilder & White, who also developed the first master plan for the campus. This is a view of the capitol from the entrance portico of the new library.*



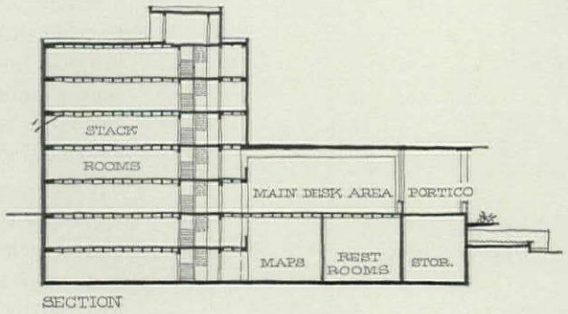
Library portico *of classic proportions echos the capitol façade.*

PHOTOS: (LEFT) ART HUPY; (RIGHT) HUGH N. STRATFORD



Art *enriches the library in several important areas. The bronze fountain (above) by Everett Du Pen depicts the fish and wildlife of the Pacific Northwest. Because it is visible from the capitol grounds, its character is representational so as not to clash too violently with the traditionalism of the campus. The abstract mosaic (below) by James Fitzgerald is in the main desk area, and the painting by Mark Tobey dominates the library staff offices. A hand-hammered sundial by John W. Elliott stands in the plaza in front of the building (page 104). Not shown is a large mural by Kenneth Callahan, located in the downstairs "Washington Room," which tells the story of the Northwest.*

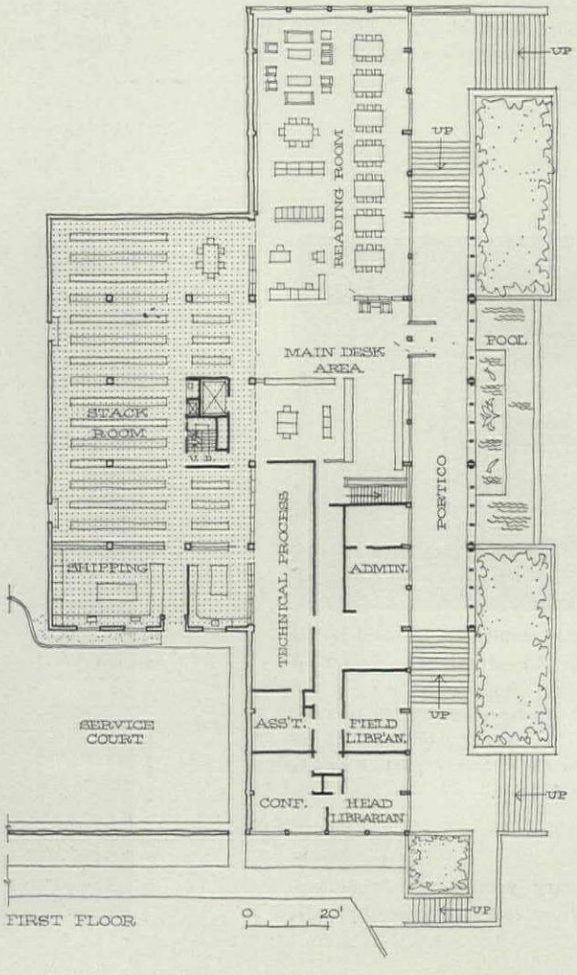
Section *through the 60,000-square-foot library (below) shows the stack tower in relation to the two principal public areas: the entrance level above, and the lower level containing maps, special documents, and microfilm facilities. If and when necessary, the stack tower can be doubled in size by an addition planned to extend to the rear of the building.*

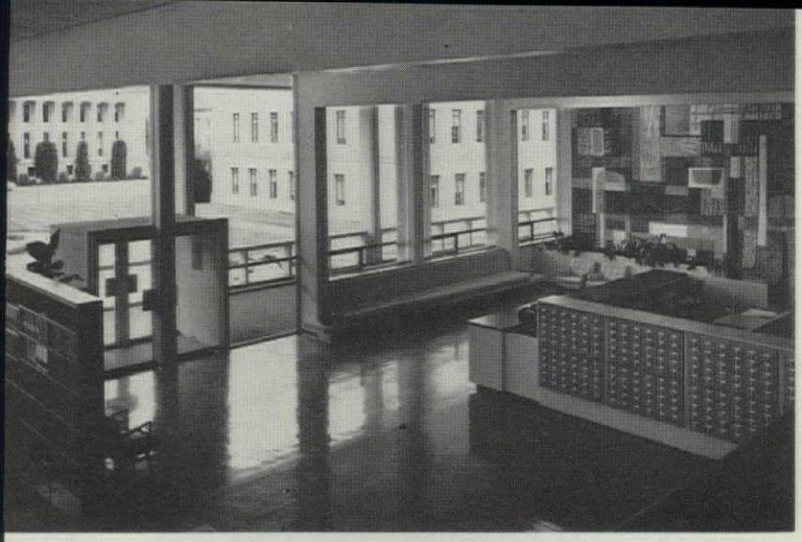


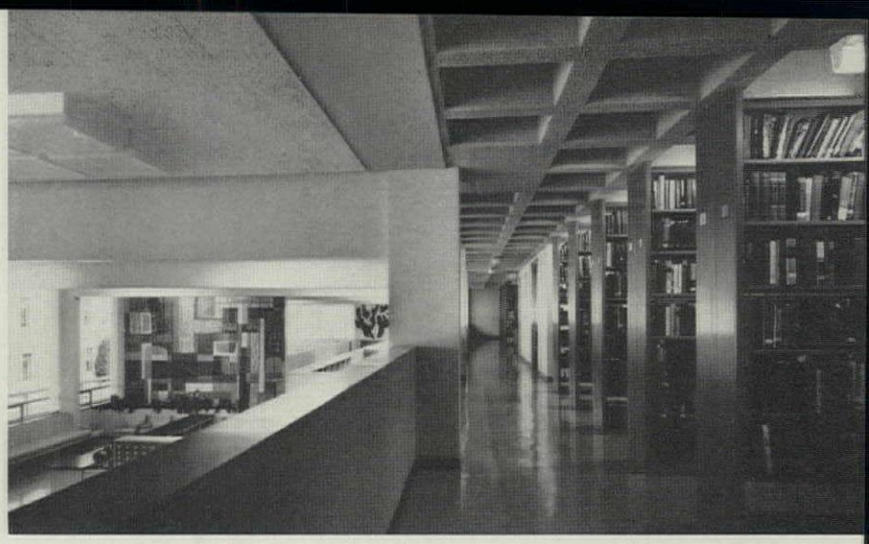
SECTION



Plan *of main floor (below) reflects the central concept of the library—i.e., that it should be capable of being completely controlled from the main desk. In addition to serving the capitol, the library functions also as the loan center for libraries throughout Washington State. The total cost of the building was about $1.3 million—or $350,000 less than the appropriation made by the legislature!*







Main floor *is essentially one big room. The entrance (above, left) is through a frame of sand-lime-stone set into the glass wall; it leads directly to the main desk and catalogue card files. View from the mezzanine overlooking main floor (above, right) shows the stack tower with its concrete waffle slab, designed for 150-pound loads. The general reading area (below) overlooks the Deschutes Basin and the town of Olympia beyond it. Interior color schemes are muted and keyed to the paintings and mosaics in each area. "The whole building is an open invitation to the user to enter and be welcomed," says the enthusiastic librarian of her openly planned space.*

PHOTOS: HUGH N. STRATFORD



The ingenious design of parking lots at Detroit's Lafayette Park helps architecture win out in its war against automobiles. BY WALTER McQUADE

Where are the parked cars?



BALTAZAR KORAB

Forum:

Your coverage of Mies's Lafayette Park development in Detroit (FORUM, May '60) has been generous, but it still leaves me unconvinced about one thing which you seemed to like very much: the merits of the parking design. Granted that it seems a good idea to dig in the parking lots, as you mentioned, so that the cars shouldn't stand there in all their glandular obesity, but is this merely a "good idea" or does it really work? If you depress the parking lots, isn't there trouble with drainage, or do you just let the water pool, in order to really conceal the cars? I would not be against putting most of them (but not mine) under water, but is it practical? And how about snowdrifts? Too few of the pictures you printed showed cars, except in front of the tall apartment building. Do you have others?

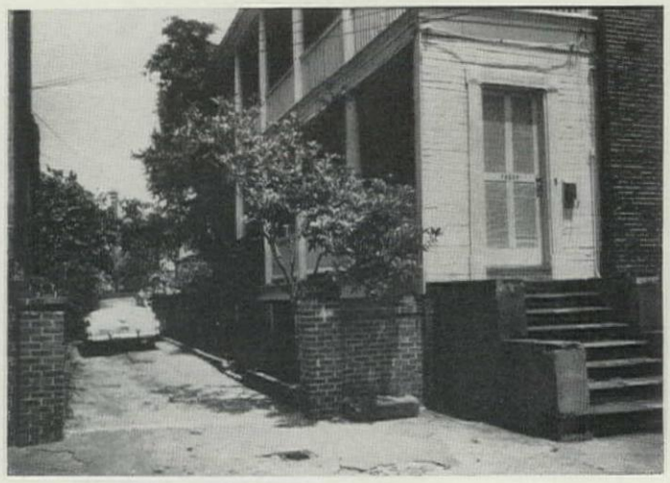
VINCENT MOSCARELLA
New York City

■ *The photographs* FORUM *published showed few cars. On receipt of Reader Moscarella's letter more photographs were made to illustrate Lafayette Park's deft break-through in the war between architecture and automobiles. That it should have taken place in Detroit is appropriate; that it has some shortcomings in some of its applications is perhaps natural. But* FORUM *agrees with Moscarella that the subject is worth further investigation.*

First, however, a further definition of the problem: most people agree that cars, however handsome they may be individually, create an ugly scene when massed together, new and old, well kept and poorly kept, obliterating the city scene.

In city neighborhoods, some of the best solutions to the parking problem have been inherited from the past, when the personal transportation problem itself was not industrial, but animal.

As an example, take old Charleston. The designers of houses like this one were forced to plan for accommodating the horse and carriage; the horse had to be kept in out of the rain or he would take cold and die. In time the horse vanished, replaced by more compact horsepower, but note how the car now disappears—or, at any rate, diminishes—down the path to his erstwhile stable. There is also a second crucial point to be observed in this situation:



the main floor of this house is raised to stoop level. Anyone inside looks across the street above the cars.

With this as background, we submit the pictures on the following three pages which show how Mies van der Rohe and Ludwig Hilberseimer used variations of the Charleston techniques to subdue the automobile at Lafayette Park. (Drainage, incidentally, is pitched out toward the street system, here, and snowdrifts so far have not buried the cars.)—ED.

There are three parking solutions at Lafayette Park, one each for the three different types of housing.

The large lot—a mere beginning

Beside the apartment slab are two fields of paved parking. Attempts are made to sink them into the grade—at one end, wheel level is 2 to 3 feet below sidewalk level. As seen in this view from the building, the vista is still of car roofs. On the





PHOTOS: BALTAZAR KORAB

other hand, this photograph taken *toward* the apartment slab from the end of the parking space at street level shows that this effort to control the mechanical monsters is too feeble, or there simply are too many monsters. The trim rectangularity of the tower is saved from being murdered by the mass of cars only by being raised on stilts, the Charleston principle. The parking device does not work. To control this many cars, it would be necessary to dig them in somewhat deeper than was done here. A few miles out of Detroit, at General Motors Technical Center, Architect Eero Saarinen took almost as big a field, depressed the wheel level 3½ feet, and added a hedge, totally hiding the cars. Here is a view into this attractive lot and . . .



. . . a view from the other side, looking over it.

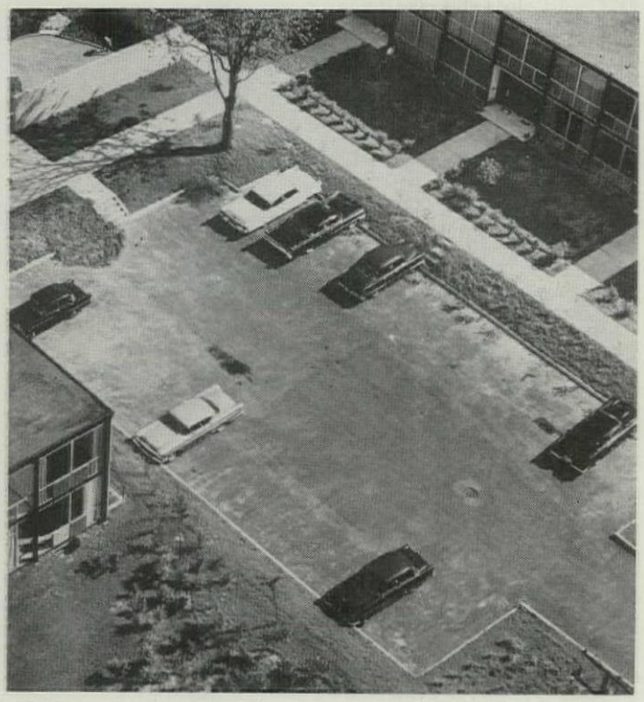




Here is a hint—a close-up showing just how much the lots are depressed (3½ feet from yard level, 4½ feet from interior floor level).

The successful small lot

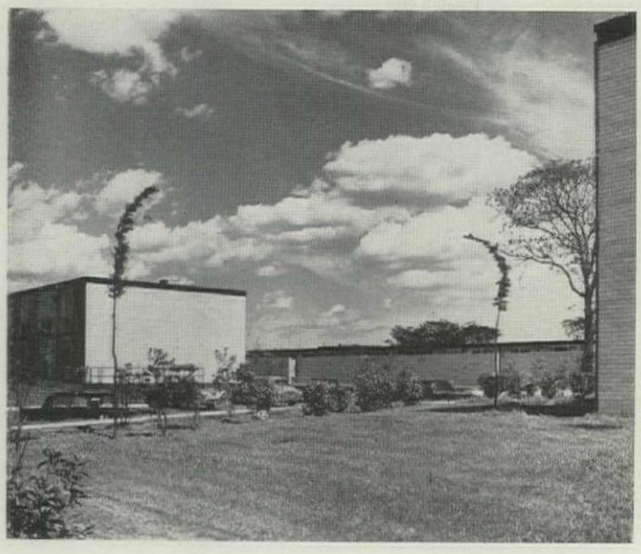
The second kind of parking at Lafayette Park is in smaller 22-car lots which each service two rows of the two-story houses. Here is a view of one of these lots from the air, indicating how apparent they must be to robins . . .





Even viewed from the same angle, but from across the street, the cars have a tendency to disappear.

. . . but when the observer comes down to ground, what has happened? . . .





And in this photo, although there appear to be a good many cars in the background, in the large lot before the apartment tower, one has to look very carefully to see the medium-sized lot closer by. So this medium-sized lot begins to look successful.

PHOTOS: BALTAZAR KORAB

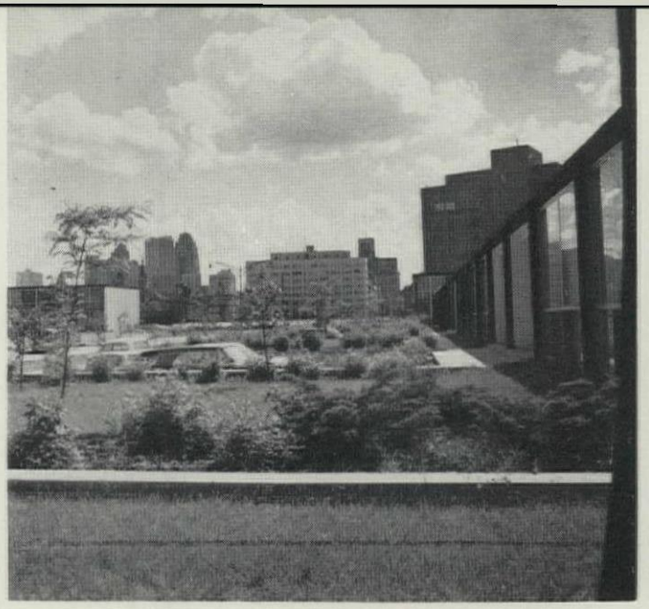
Best of all: the boat slips

Even better is the third variation, shown here in the air view. In this scheme, the owner of each



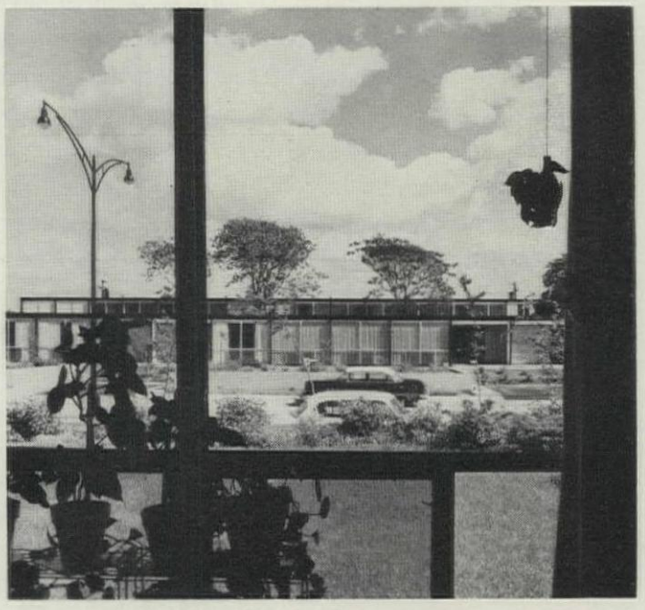
single-story row house parks in front of his doorway. Too obvious? No, the important thing is that he also parks *below* his doorway. His front yard is lifted close to 3 feet from the street and parking level. Here is a view from the roof of a neighboring two-story unit . . .





. . . and here the camera is down to pedestrian level for the real view.

The cars slide neatly into the landscape, are available within 20 feet of the front door, but do not usurp the architecture. The mounds on which the glass-walled houses sit also preserve privacy from sidewalk pedestrians, and there is still another bonus: the view out those glass walls is not into the side of a car.



Boat slips have always been pleasant places; their counterpart on dry land, boat-slip parking for cars, is also pleasant.



COURTESY MOBIL OIL CO.

Architecture with a flourish

By long sweeps of time, if not rhythmically by centuries, architecture takes directions toward grimness or gaiety. In the last few decades it has traveled on the functional canal, straight and narrow, where gambling was not permitted, but honesty and industrialism have been the major concern. Now, however, many architects seem to have grown discontented with this design morality, and it looks as if the architectural stream ahead has a few eccentric turns in it. For this reason alone, it is worth recalling one of the gayest of all periods of design, when a Bavarian ruler made his court dwarf into an architect, and the dwarf grew into a mighty one.

The ruler was Max II Emanuel of Bavaria, the dwarf was François de Cuvilliés, the time, the eighteenth century; the places were the light-opera countries stretching from Prussia to Bohemia. The Thirty Years War was over, the light wines were freely flowing, rulers were status-conscious, cathedrals and palaces were abuilding. The result—or perhaps even part of the cause—of all this: the German Baroque. Architect Cuvilliés and others with majestic names like Fischer von Erlach, Balthasar Neumann, Domenikus Zimmerman, and Lukas von Hildebrandt, concocted a high kind of folk art, seasoned it with fervent imagination, and served it up as a full-fledged architectural style. Many examples still stand on the Teutonic landscape.

It was an architecture which cherished cherubs, gilt, flourishes, cartouches, and other intricate ornamental detail, and which integrated painting and sculpture into itself. It was a very sane architecture, which knew the value of wide-scale planning, designing city squares before buildings, and then the interiors of the buildings before their exteriors. (If there was energy left over, the exteriors received just as much attention as the interiors.) It was an architecture essentially of space, which declined to define floors, walls, and ceilings as purposes in themselves, but insisted instead on wrapping the visitor in an elaborate enclosure which sacrificed clarity for grandness. It was a newly scientific architecture—descriptive geometry had just been invented, and for the first time draftsmen could really draw and control intricate ornament. It was an impudent architecture; among its greatest artisans were the painters who could fake wood paneling into exquisite marble, veining it better than Mother Nature.

The extraordinary photographs on these pages come close to describing the surprisingly calm end-result of all this artful elaboration: great spaces which live on serenely—peace through joy.

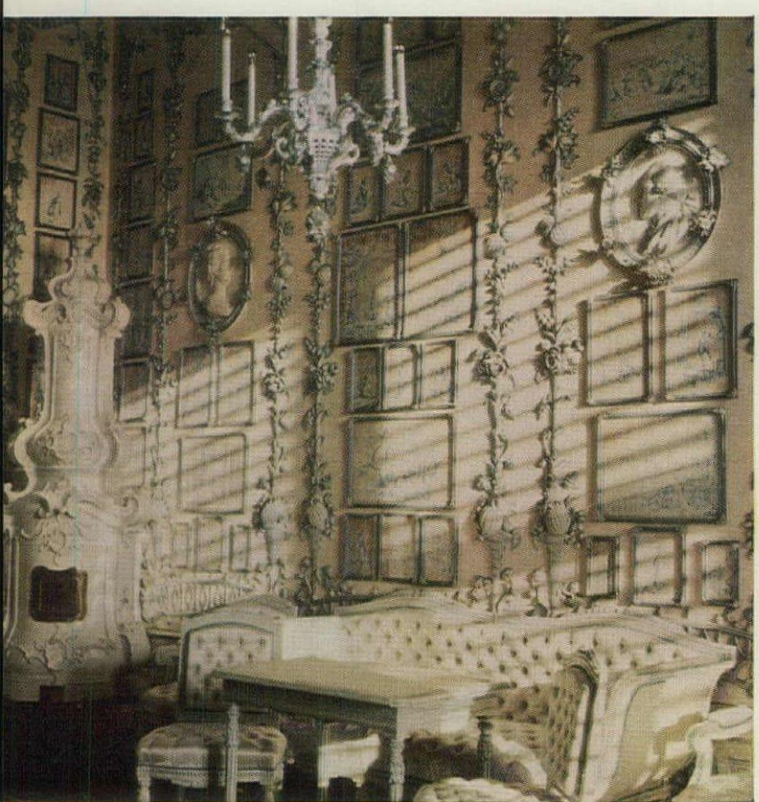
Photographs by Architectural Designer Nathan Silver, taken under a William K. Fellows Traveling Fellowship from Columbia University.

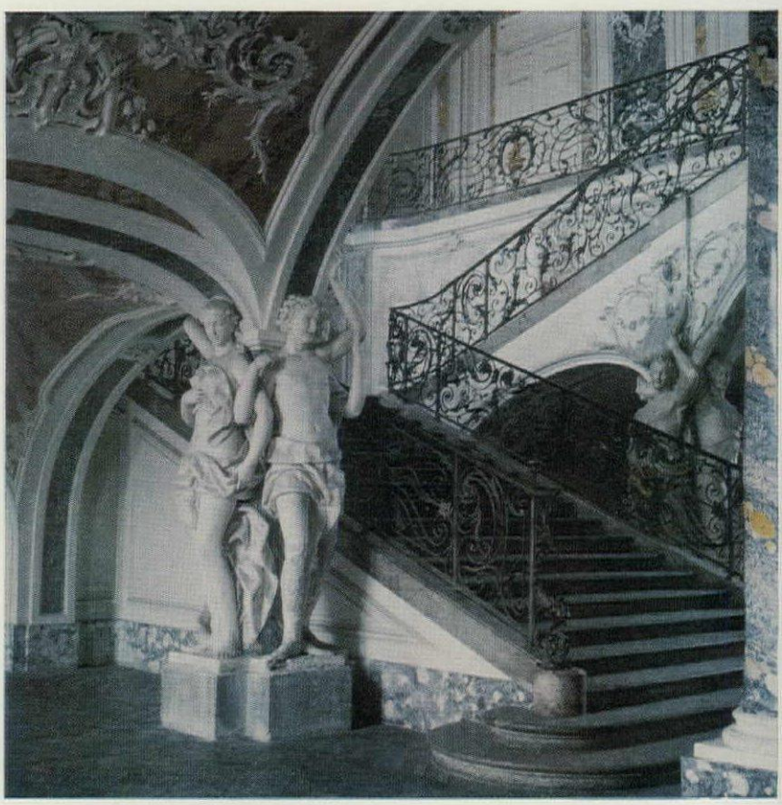


Side altar in a parish church in Stams, The Tyrol, Austria, done about 1755, features this sentimental statuary, probably the work of Joseph Anton Feuchtmayer, who was noted for his child figures and the vividly ecstatic posture of his work.









Vaulted ceiling of the great Residenz *in Würzburg (top), by Architect Balthasar Neumann, completed in 1742, has allegorical frescoes by Tiepolo.*

Interior of Schloss Schönbrunn (bottom), near Vienna, was designed by Niccolo Paccassi after drawings by Fischer von Erlach, finished in the 1760's.

Freising Cathedral (top) was a Romanesque church decorated in 1723-24 in Baroque by the Asam brothers. Photo shows the triforium.

Stairway in palace at Brühl (bottom), near Cologne, is by Balthasar Neumann, finished in 1748. The colored marble panels are not real—painted stucco, waxed.

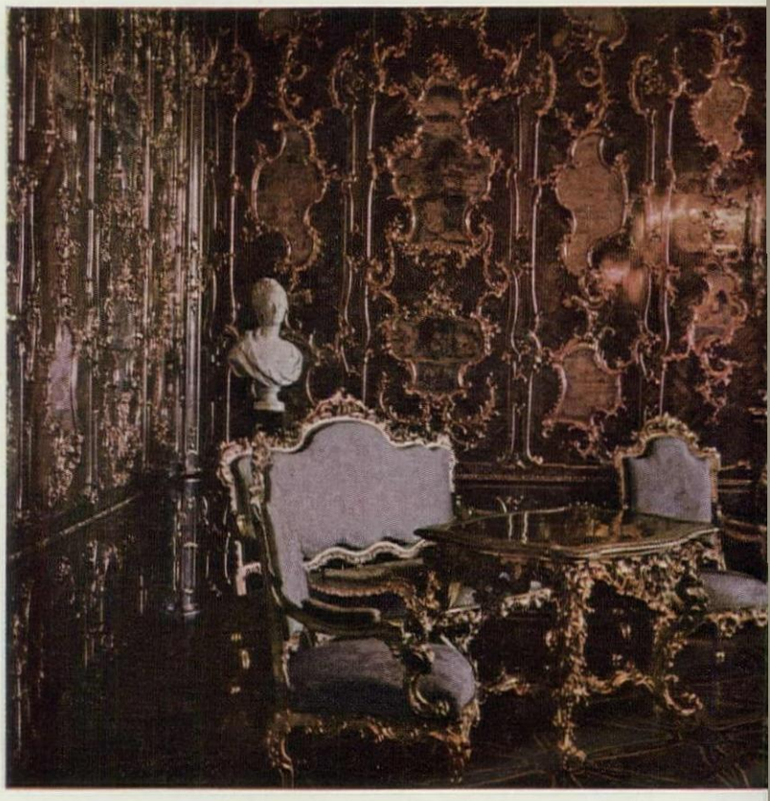


Vierzehnheiligen, a pilgrimage church by Balthasar Neumann in the Main Valley, begun in 1744, finished in 1772, is the most famous German Baroque work.









Neues Schloss (top) in Bayreuth (1754-59) has stucco spalierwork in the foreground by Johann Baptist Pedrozzi. Dining room, beyond, is cedar with giltwork.

Brilliant ceiling of Church of the Wies (bottom), 1745-54, near Oberammergau in Bavaria by Domenikus Zimmerman, is decorated by his brother, Johann Baptist Zimmerman.

Schloss Weissenstein, Pommersfelden (top), completed in 1718, is by Johann Dientzenhofer. Photo shows the ceiling in the main hall.

"Million Gulden Room" in Schloss Schönbrunn (bottom —see also page 114) is decorated in Baroque "Venetian," a particularly rich theme.

Helbinghaus, Innsbruck (right), is an example of middle-class Baroque, a town house featuring ornate external decoration in stucco.



The new urbanites and

SECOND OF TWO PARTS

The influx of nonwhites is compounding the big cities' slum problems and focusing attention on the inadequacies of the nation's public housing and renewal programs.

Three quarters of the estimated 13-million substandard housing units in U.S. city slums are occupied by Negroes and other nonwhite racial groups, most of them recently migrated from rural areas. Last month, FORUM examined the sources of this new urbanite population, and the economic, ethnic, and social forces causing it to huddle in teeming and growing slums. This month, FORUM considers the major necessity without which the integration, urbanization, and free advancement of this new group of city dwellers cannot begin to be solved, which is decent housing. And, although the record to date is bleak, there are some real stirrings toward a more hopeful future.

The housing market for Negroes has traditionally been a trickle-down market, but only in the past decade or so has the trickle amounted to much. Though Negroes have expanded into formerly white residential areas, their chances of moving on, outside the city limits in the wake of families with the same economic and social characteristics and ambitions, are slim at best. Thus the middle-income Negro is blocked off from becoming truly middle class in terms of housing, for he is banned from that great oasis of middle-class mores, the suburb. The case of Grosse Pointe, Mich., an upper-income suburb of Detroit, exemplifies the smug exclusiveness that has intensified the minority housing problem. That community has devised a system of ratings for potential home buyers, who are investigated by a detective and screened by a special panel. The ratings are based on ethnic background, accent, clothes, and other important measures of desirability. Negroes, however, do not get rated at all. The furor over this bit of nonsense has already prompted state officials to consider legislative action to bar any further employment of such rating scales.

Government has attacked the problem of the slum ghettos with two basic weapons—slum clearance and public housing. Both seem sound in principle. Certainly the worst slums should be destroyed, and ideally they should be rebuilt with new, healthy housing, available on an open-occupancy basis to low-income groups. However, neither federal urban renewal nor public housing has come close to solving the overall problem of slum proliferation and misery. In many respects, they have intensified the problems.

The failure of federal solutions

The federal public housing program has just about ground to a halt. Last year, only 21,427 units were completed, and this year less than that will be built. Five years ago, when the program was cut to 35,000 units per year, its advocates howled, but the sad fact is that even this is much more than the cities can digest. Several weeks ago, acting Public Housing Commissioner Lawrence Davern was asked by a Senate committee why cities were no longer requesting federal aid for public housing, and he replied that northern cities, in particular, were not requesting more aid, despite demonstrated shortages in low-income housing, because of integration problems. City officials, Davern maintained, are unwilling to approve sites where neighbors might object to public housing (which must have open occupancy in almost all northern cities, although federal law does not require it), or

the city housing crisis

BY DAVID B. CARLSON

where integration might prove difficult.

Many cities are gravely concerned about the heavy concentrations of Negroes in public housing projects. Chicago public housing is 88 per cent Negro, Washington over 90 per cent, and New York City 39 per cent. Yet it is the Negro families that need housing most, and they can hardly be restricted by quotas or any other such artificial means as long as they are least privileged in housing choice. It has been estimated that average Negro income for the nation as a whole is only 60 per cent that of whites, and that three out of every four families dislocated by slum clearance in cities are Negro families with incomes under $4,000 per year.

The fact that what little public housing there is has been increasingly Negro does not enhance its popularity, and the overpublicity given to the antisocial behavior of a few problem families in public housing sours many cities' taste for more. Much of the blame for the failure of the program must be laid directly to the local authorities and to the PHA itself (FORUM, June '57). Unrealistic income and building-cost ceilings, unworkable regulations, too few large dwelling units, and other failings have all been charged at various times, in various cities, but none of these is as important as the misguided notion that public housing could be used to create new neighborhoods, isolated from the rest of the community. From this misconception grew the goliath developments that cover block upon block of New York, Chicago, and other cities, unfriendly monstrosities that are never referred to by their inhabitants as anything but "the project." Problem families are indeed a problem, and always will be, but problem buildings need not be duplicated year after year.

Philadelphia and Baltimore, among other cities, have discovered that new neighborhoods cannot be created by public housing, and that the effort is likely to result only in the exchange of new blight for old. These two cities have pioneered a more sensible approach to the problems of housing low-income families, based on upgrading their housing and neighborhoods by judicious rehabilitation of single units, accompanied by vigorous social work to educate the new urbanites in the ways of urban living. They have successfully attempted scattered site and conversion programs, and have encouraged new design concepts. The settlement-house approach, wherein the newcomers are drawn into a neighborhood rather than walled off from it, has worked and is being refined. In Baltimore, the usual one-year in-city residence rule has even been waived in public housing, and it has not led to any rush of new urbanite families, but rather made it possible for the Authority better to serve those families which are most in need of help.

In New York City, the biggest public housing program of all has fallen short in many respects. Planner Raymond Vernon, author of *Anatomy of a Metropolis*, perhaps summed it up best when he observed that "the redevelopment of neighborhoods through the subsidized construction of low-income housing has generally not greatly altered the density or distribution of population." Thus, despite 26 years of effort and a total of 110,000 units built, New York's public housing, though it has greatly augmented the supply and quality of housing for the least privileged, has hardly made a dent in the cruel pattern of segregated, congested slums.

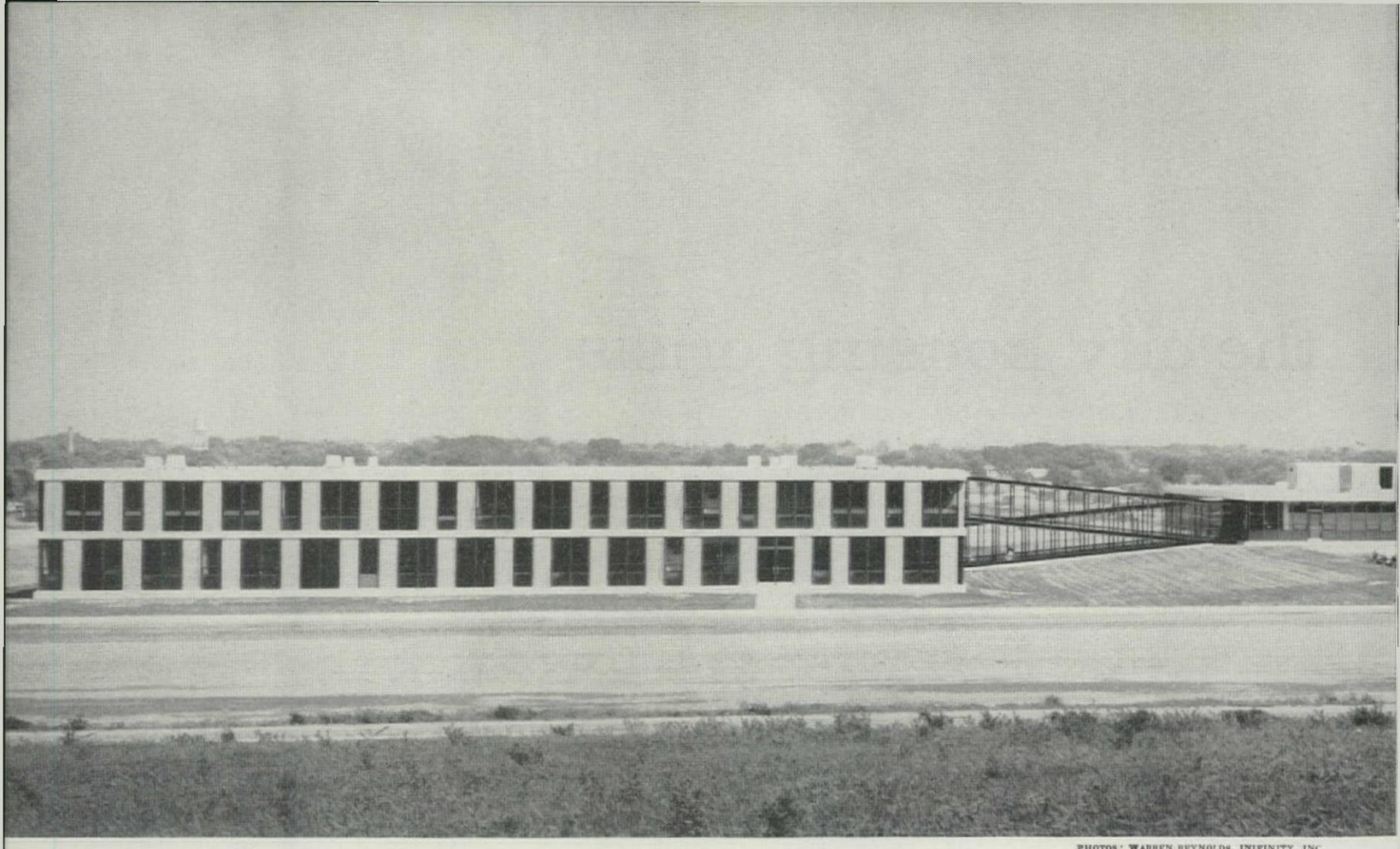
Of course, the greatest failure of public housing has simply been its insufficiency. Every big city in the nation has a long waiting list for public housing, and relocation agencies have long decried the lack of it for eligible families uprooted from slums by government action of one sort or another. There are currently 326,000 units in active planning or under construction, but this can hardly meet the challenge of 13 million substandard dwelling units occupied by more than 13 million families, due to doubling up.

Gilding the ghetto

If public housing has not helped low-income families, particularly minorities, by dint of its insufficiency, poor design, and administrative shortcomings, the urban renewal program has, indeed, been a real obstacle for these families. In the first place, though it is, like public housing, a slum-clearance program, urban renewal was never designed to provide housing for the slum families it must, of necessity, dislocate. Its purpose has been to draw middle-income families back into the central city with attractive new housing. No one argued with this notion back in 1949, when the urban renewal program was passed, because no one then foresaw the utter collapse of public housing, with a consequent loss of housing opportunity for those families uprooted. As a result, low-income families are constantly being ousted from their slums, and shifted to other slums, unless they can get into public housing. This not only adds to the congestion of the already crowded slums, but propagates and intensifies the slum ghetto, for the majority of dislocated families are usually forced into Negro slums not very different from those being cleared.

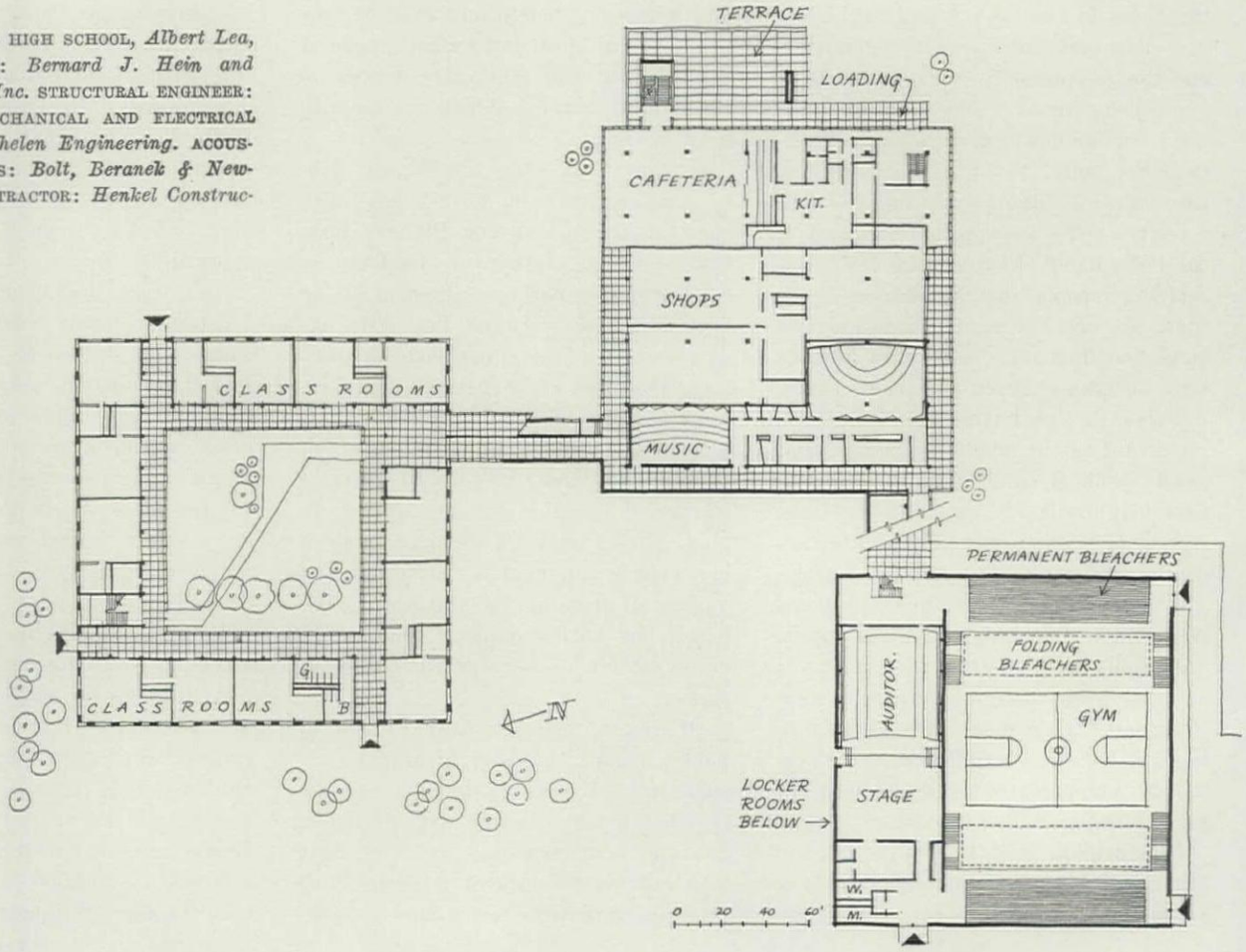
Urban renewal, like public housing, attempts to create new neighborhoods, but it seems to have a better chance of succeeding. For one thing, urban renewal can operate on a vaster scale. Philadelphia's Eastwick area, for instance, will eventually be rebuilt with 10,000 units of new housing, selling for $10,000 to $12,000. As Development Coordinator William Rafsky says:

continued on page 190



PHOTOS: WARREN REYNOLDS, INIFINITY, INC.

SOUTHWEST JUNIOR HIGH SCHOOL, *Albert Lea, Minn.* ARCHITECTS: *Bernard J. Hein and Hammel & Green, Inc.* STRUCTURAL ENGINEER: *Axel Johnson.* MECHANICAL AND ELECTRICAL ENGINEERS: *Orr-Schelen Engineering.* ACOUSTICAL CONSULTANTS: *Bolt, Beranek & Newman.* GENERAL CONTRACTOR: *Henkel Construction Co.*





Three prototypes in one school

Junior high school for 1,100 pupils demonstrates that variety in planning and construction need not mean high cost.

The 150,000-square-foot Minnesota school shown on these pages has some of the raw, unlandscaped look of many brand-new buildings (a tree-planting program is now under way); but in contrast to the bleakness of the landscape, the building itself is rich in ideas and details that belie its low unit cost (only $16.75 per square foot, including fees).

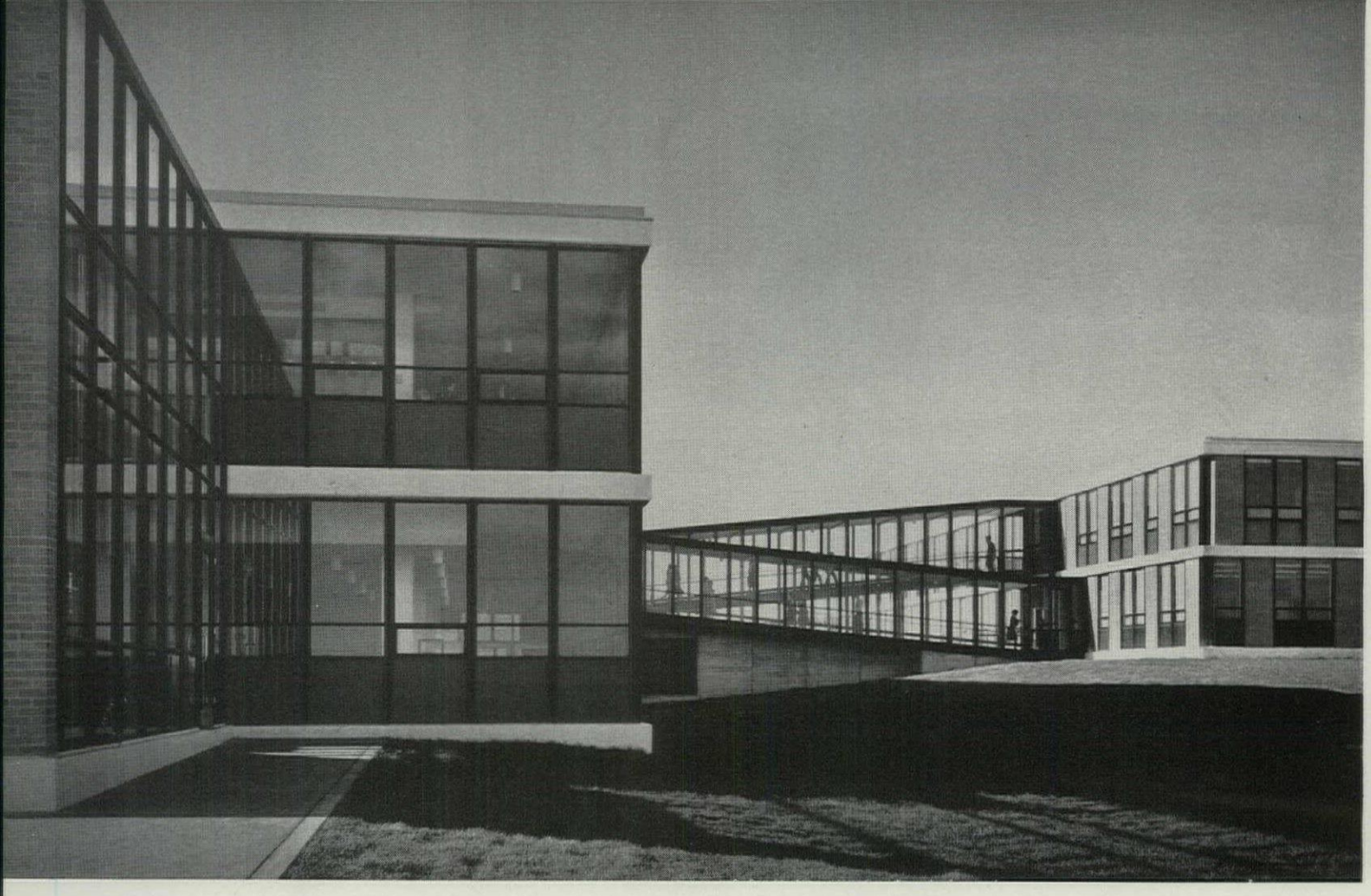
The school consists of three separate, square structures linked to one another by glazed passages and ramps. The first of these structures is enclosed with solid brick walls and contains the gym and auditorium. The second, containing all the classrooms, is enclosed with a curtain wall that is part brick and part glass, set in a staggered pattern. This building has a "square doughnut" plan, with a court in the center. Finally, the third structure is all glass and contains shops and other facilities. It has a peripheral corridor for circulation.

Each plan type, together with its particular exterior treatment, serves its special purposes well. The blank-walled, all-brick building, for example, contains only spaces that do not require natural light. The brick-and-glass structure contains classrooms planned compactly around the central court, an arrangement which avoids noise problems often encountered in double-loaded corridor plans. (The "doughnut plan" has only 5 per cent more corridor space than an equivalent double-loaded scheme.) And the all-glass building, containing shops, uses its outside corridors to protect interior spaces against sky glare and the harsh climate.

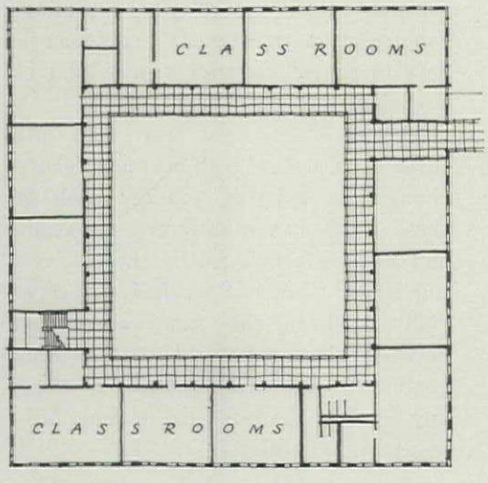
The architects split their plan into three separate units to overcome sharp changes in existing grades: each of these units has a different elevation, and levels are bridged by the connecting links. This has worked out especially well in the ramp connection between classrooms and shops, which enables pupils and teachers to reach any level in the building without having to climb stairs.

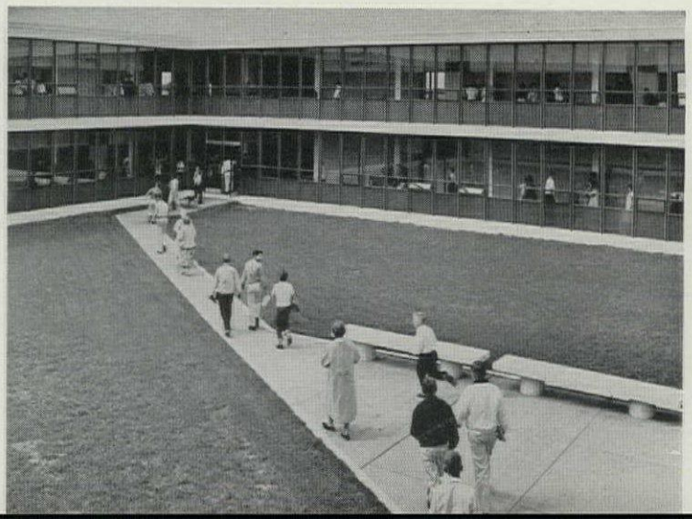
Three-square plan *(opposite) shows division of school into classrooms, shops, and large assembly areas. Connecting links bridge the differences in grade.*

Glass-and-brick building *(above, right) contains 24 classrooms on two levels. Its curtain wall cost $4 per square foot (as compared with $2.90 for the all-brick wall, and $4.50 for the all-glass wall around the shops—above, left). The staggered brick-and-glass pattern is a welcome relief from the monotony of repetitive curtain-wall systems. All curtain walls in this building are based on a mullion grid made up of 14-gauge hollow metal sections similar to those used for standard metal door frames. Glass or brick panels are then fitted into this grid. The slim elegance of the building which has resulted from such detailing has created a public-relations problem for the architects: many laymen refuse to believe that the school was really economical to build —especially in view of such apparent "luxury features" as paved and planted interior courts (below, right), glass-enclosed ramps (above), single-loaded corridors, and handsome finishes.*





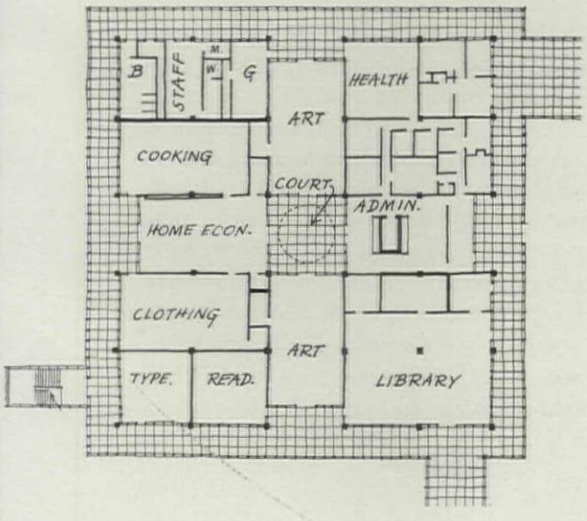






All-glass building *(above, left) is actually two stories high, although only one story shows above grade on the uphill side. The building is surrounded by a glazed, 10-foot-wide corridor (photo below, right) which forms an effective weather barrier between the outdoors and the spaces inside: in the summer, the corridor becomes a deep sun shield that helps protect the shops; and in the winter, it becomes a thermal barrier heated to only 65 degrees to help insulate the shops. All interior spaces borrow light from the glazed corridor, through walls of translucent glass. For added illumination of art shops, etc., the architects provided a 20-foot-diameter skylight dome over a small, central court (photo, right). Since the all-glass building is at the center of the three-unit school, it contains several spaces that should be in a controlling position, e.g., all administrative offices, the library, and the cafeteria.*









1



2



3

Pride of Middletown

To some people a garage is a garage, and there isn't much that can be done about it. But to Architect Harold Goetz Jr., and other good citizens of Middletown, Ohio, their new Municipal Service Building is proof that almost any building can be a credit to the community without costing a lot—that indeed it is in a town's humbler, often neglected buildings that architecture counts the most.

Middletown's new service structure, built for $245,000 (just under $10.50 per square foot), houses 50 vehicles, extensive maintenance shops, and pleasant, air-conditioned offices for the street and sewer, water and sanitation departments. The low office wing in front has enough modest monumentality to suggest a civic purpose, plus a low, clean Wrightian look of its own (1). Materials are low cost and left in their natural finish: lightweight concrete block stacked with neat vertical joints; precast concrete roof panels which cantilever slightly to form a cornice overhang; copper and redwood trim. Around a short screen wall, the offices look back to a small planted terrace and the main entrance to the garage (2). Inside (3), trucks are lined up under an exposed ceiling of precast slabs carried on 70-foot girders set 25 feet apart, high and wide enough to permit exposed steel at low fire rates. At night the whole building is handsomely floodlighted, more than saving the cost of a night watchman and setting off one of Middletown's proudest sights. Mechanical engineers: Helmig & Leinesch. Contractor: Ajax Construction Co.



1



2



3

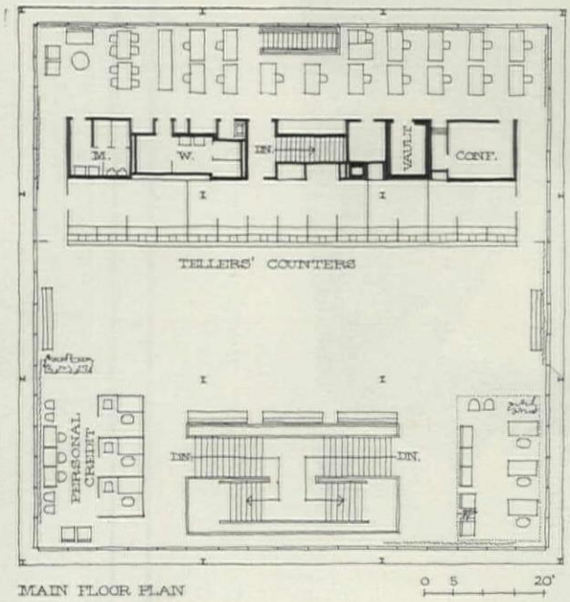


4

PHOTOS: © ERA STOLLER

A branch bank for the air age

The newest, and handsomest, of First National City Bank's 86 branches in metropolitan New York is this trimly tailored structure in black steel, rising near the entrance road to the city's vast new International Airport at Idlewild (1, 2). Actually a headquarters in its own right, the two-story building houses the main vault, management, and bookkeeping for five smaller branches in various terminal buildings, which it services with a small Volkswagen bus. The main branch also handles major transactions for departing and arriving businessmen, as well as serving airlines, local industry, and many of the airport's 25,000-odd employees. Raised for visibility among larger neighbors, the bank's exposed steel frame shelters three drive-in tellers' windows at the rear, and covered entrance terraces toward parking lots on the sides (3). Stairs with crisply detailed handrails in white-painted steel make an inviting composition at the front, leading up to a banking floor left largely open to accommodate payday lines with a minimum of crowding (4). Signs with simple, dignified letters in white plastic, lighted from behind, are mounted directly on the building's fascia line, combining with rows of pinpoint ceiling lights to give the bank a clean, bright look after hours. Architects: Skidmore, Owings & Merrill. Engineers: Weiskopf & Pickworth (structural), Cosentini Associates (mechanical). Contractor: Turner Construction Co.

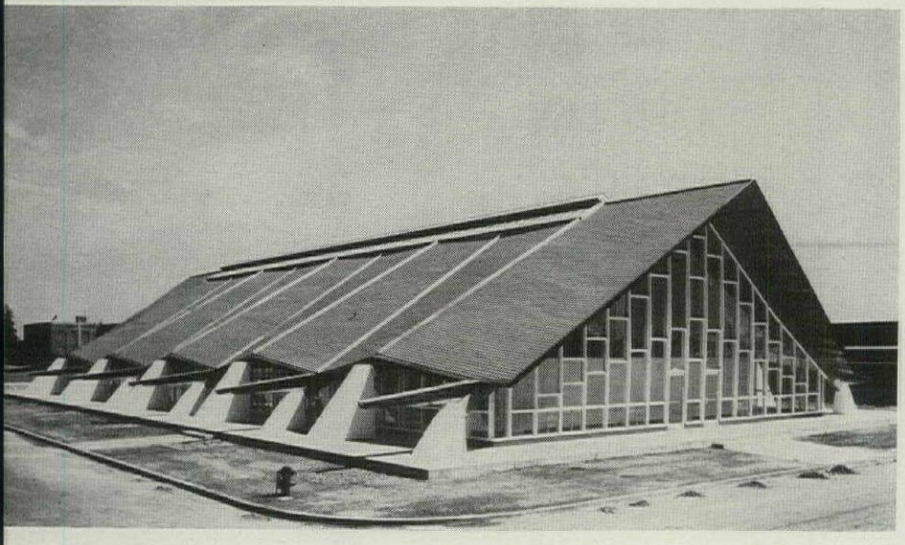


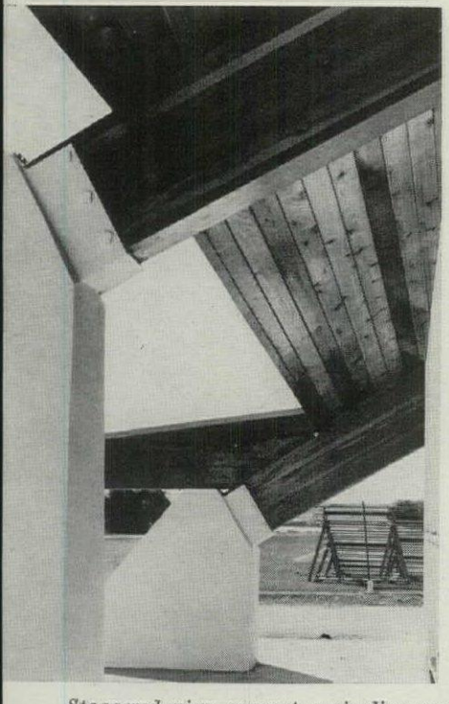
MAIN FLOOR PLAN

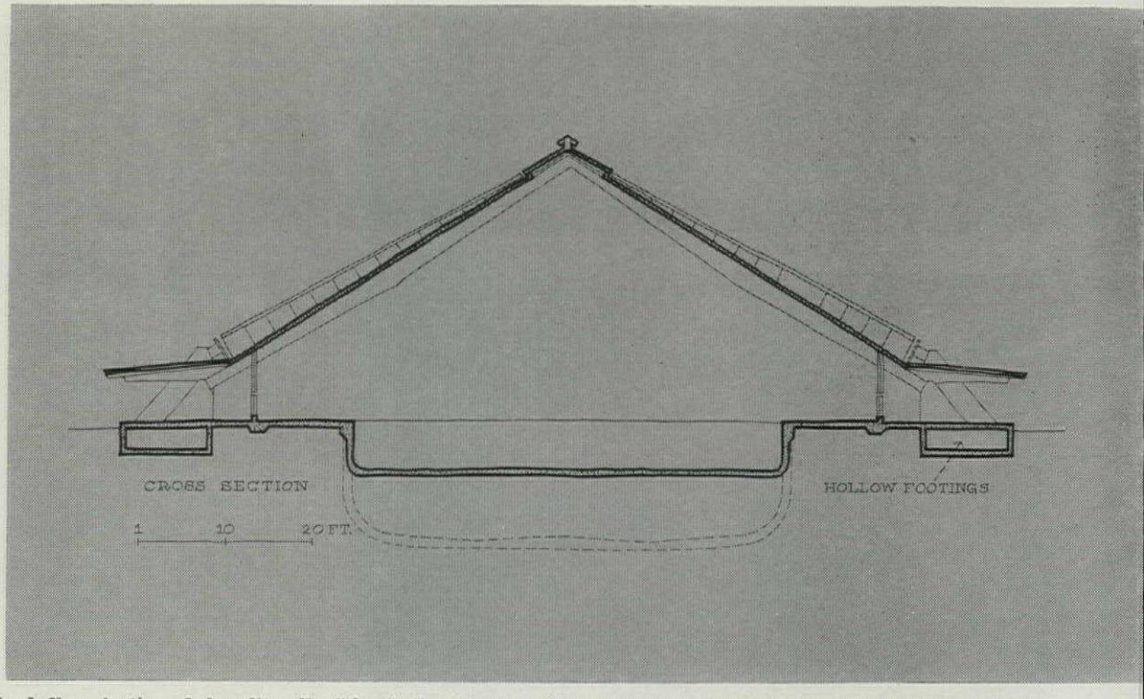
0 5 20'

A pool house on pontoons

Necessity, more than once the mother of inventive architecture, helped produce this unusually graceful shelter for an indoor training pool at the U. S. Coast Guard's Alameda, Calif. base. When soil tests revealed that bearing piles would have to go down through 80 feet of mud off San Francisco Bay, Architect Ernest Kump and Engineer Walter Dickey decided instead to float their building on "pontoons": hollow perimeter footings of concrete which displace a mass of mud equal to the building's weight (see section, below). To keep the building's weight within bounds, they made the superstructure a light, flexible tent of laminated fir bents and cedar decking, warped from the ridge to a row of staggered piers. The strongly crimped shape not only conceals in advance the unsightly distortions of roof line that may be caused by uneven settlement, but also acts as a wind- and earthquake-bracer. It also provides a pleasantly rippling roof line not inappropriate to the building's use. Long "gargoyles" at each valley are designed to spill water clear of the base and to help resolve the roof's form as it approaches the ground. To complete the nautical salute, Kump dressed up his wood with a spanking coat of spar varnish inside, added a slate-gray roof, white piers and window trim, and flashing and fascias of bright Coast Guard blue. Cost of the building came to $284,000, less than $19 per square foot. Construction consultant: Perry E. West. Mechanical and electrical engineers: Keller & Gannon. General contractor: Payne Construction Co.



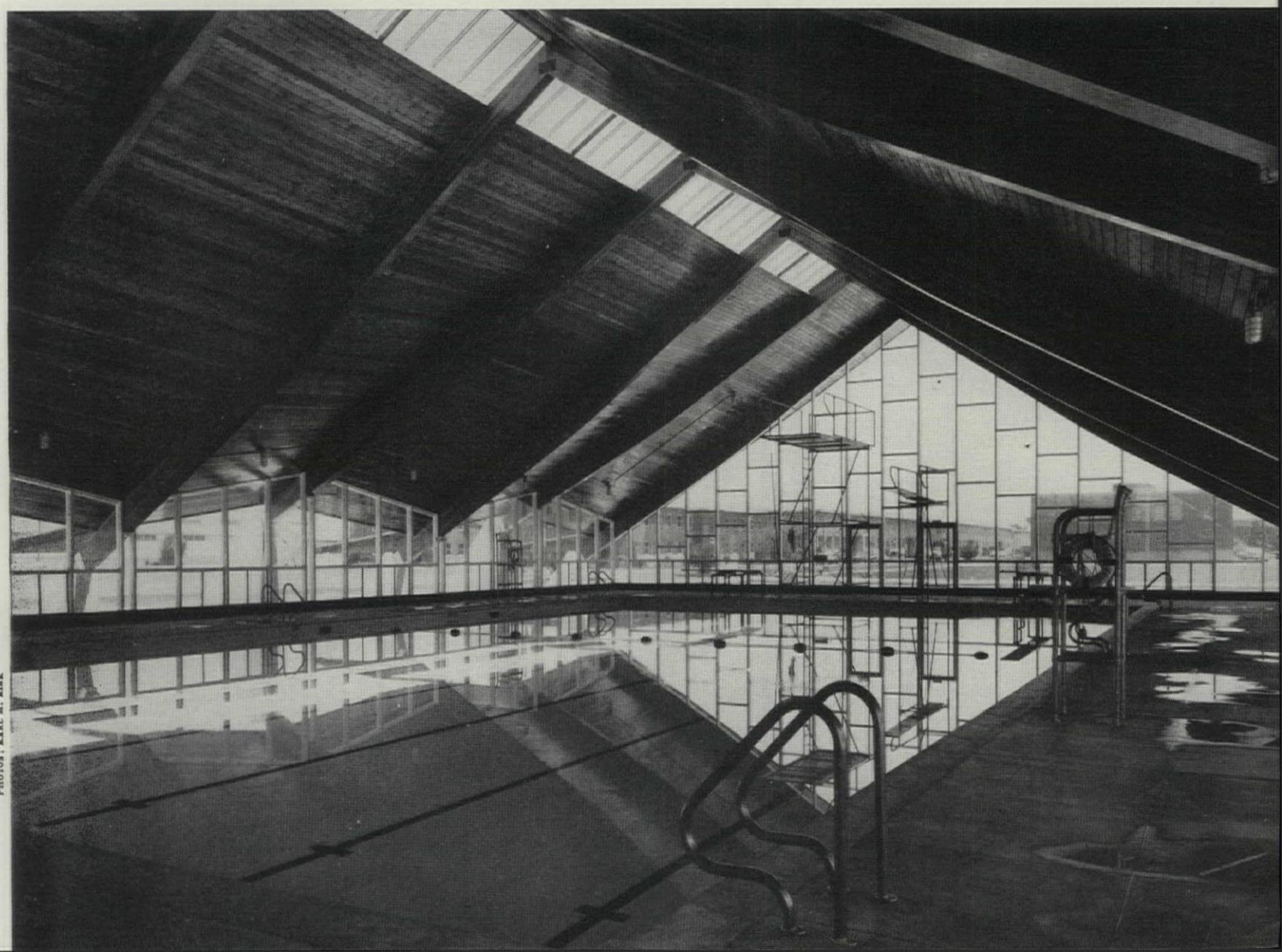




Staggered piers support a rippling roof; the hollow footings below literally "float" the structure like pontoons, taking up the thrust from the bents.



Glass—set across each end, along the ridge, and well in from the piers along the sides—completes the enclosure with a sunny, almost weightless air.



PHOTOS: KARL H. KIEK

Technology

Outdoor lighting:



PAUL GENEST

an expanding new technology

Many new buildings have an evening glow, but the typical American city has yet to adopt the recent developments in outdoor illumination.

BY DAVID ALLISON

Not since the flamboyant twenties has night lighting enjoyed such a vogue in architecture as today. In that early era such buildings as Chicago's Wrigley Building, San Francisco's Pacific Gas and Electric tower, and Pittsburgh's Koppers Building were turned into shining landmarks on the night sky. The depression dimmed such radiance, and it was not until the new building wave of the fifties that it began to return in new and dazzling forms.

The principal incentive to night lighting is perhaps more commercial today. A building owner is now more likely to light his building at night because it is one of the least expensive forms of advertisement. "For a $100,000 investment," says one builder, "my building becomes a landmark."

But night lighting is also spilling into many fields other than building, into shopping centers, parks and plazas, malls, and prominent streets, as witness the Avenue des Champs-Élysées (left), which was relighted to new brilliance after the war as a special inducement to tourist activity. Moreover, the design approach to building illumination is quite different from what it was in the twenties, when a building would be lighted only as an afterthought. Today a nighttime lighting plan is likely to be integrated into a building's overall design. An example is New York's Seagram Building (photo, page 130), which was conceived as a "tower of light" by its architects and Lighting Consultant Richard Kelly.

Recent technical developments have given night lighting a broad range of applications and allowed designers to create spectacular effects. Indeed, lighting developments of the past few years have been extraordinary. Virtually any beam pattern can be obtained with existing equipment and, as one designer says: "If the fixtures we need do not exist, chances are good that someone will modify an existing lamp or produce a new one to our specifications." Much equipment now standard came into being in this way.

An evening in Paris *on the Avenue des Champs-Élysées has the gaiety of festival time, because the avenue is amply lighted. One purpose of the lighting plan, as in many prominent cities of Europe, is to enhance the city's attractiveness to tourists. Few U.S. cities have learned the commercial advantages of such high-level illumination.*

The three sources

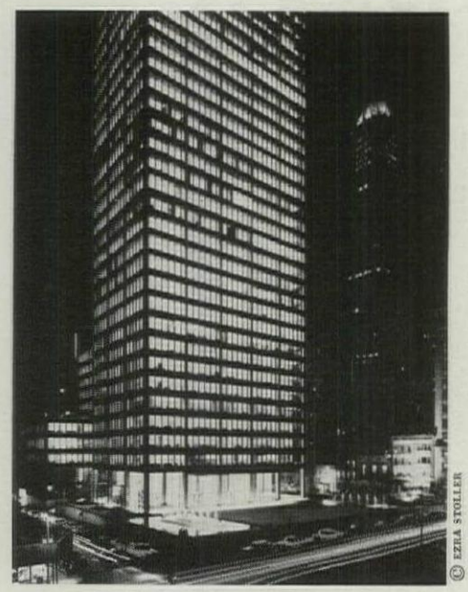
The major sources of illumination—incandescent, fluorescent, and mercury vapor lamps—are undergoing continual improvement. The incandescent lamp, for example, which is still the most widely used source of street lighting, has been improved somewhat in efficiency since the forties. During the same period, the fluorescent lamp, which is higher in efficiency than the incandescent but lacked sufficient light output for outdoor use, is now an important outdoor light source, with about three times the output of the best fluorescents of the midforties. Similarly, today's mercury-vapor lamps have about three-and-one-half times the output of earlier types and are of better color quality. Here are some recent developments on these fronts:

▸ Among the recent advances in lighting technology is General Electric's new *tungsten-filament tube* of pure quartz, about the size of a pencil. It can be exposed to the worst weather conditions without breaking and is only about 1/200th the size of a conventional filament lamp of equal wattage. Unlike ordinary incandescent lamps, the new lamp has a special "iodine cycle" that keeps it free of the blackening which causes other incandescents to decrease in light output with use. The iodine cycle causes the evaporated tungsten to redeposit on the filament, rather than on the glass envelope, thus keeping the glass clean during the lamp's 2,000-hour life. One of the first installations of this new light source is at a race track outside Boston.

Another type of quartz lamp, which emits infra-red heat, was installed during the winter outside the Chicago store of Carson, Pirie Scott & Co. This lamp emits sufficient heat to keep the sidewalk area comfortably warm and encourage winter-weather shopping.

For many years, the conventional incandescent lamp has been the most important source of outdoor illumination, particularly in street lighting. But the incandescent, compared with the other major types of lighting, is lower in efficiency. (Efficiency is measured by the amount of light produced for each watt of power consumed.) Thus, though original incandescent installations may cost less than either fluorescent or mercury vapor types, the extra expenditure for power will often offset the saving.

▸ *Mercury-vapor lamps* have been improved markedly in the past few years, both in color and efficiency, and now hold several advantages over the incandescents: for example, in the 400-watt range, a mercury lamp gives about four times as much light for the power consumed, and has about twice the life, i.e., 6-7,000 hours. Used with certain metal curtain walls, standard mercury lamps yield a more striking effect than either incandescents or the newer color-corrected mercuries. For example, standard mercury lamps were used by Lighting Consultant Abe Feder on New York's Tishman Building to create a sharp, cold glow from the building's patterned aluminum façade. On the other hand, Feder plans to light the stone shafts of the new Time-Life Building with incandescent lights "which pick up the texture of the stone better than mercuries do." Because of their longer life and higher efficiency, mercury lights have been gaining on incandescents in such areas as street lighting (some 15 per cent of all street lights are now mercuries) and park lighting. Feder used mercuries to light the plaza and parking areas of New York's International Airport (Idle-



Tower of light: *Seagram Building in New York is an excellent example of the integration of architecture and lighting design. To avoid a "cavelike" atmosphere, the lobby was lighted to a very high level, using 200- and 300-watt incandescents.*

wild—photo, page 133) and the Fifth Avenue perimeter of New York's Central Park (photo, page 133).

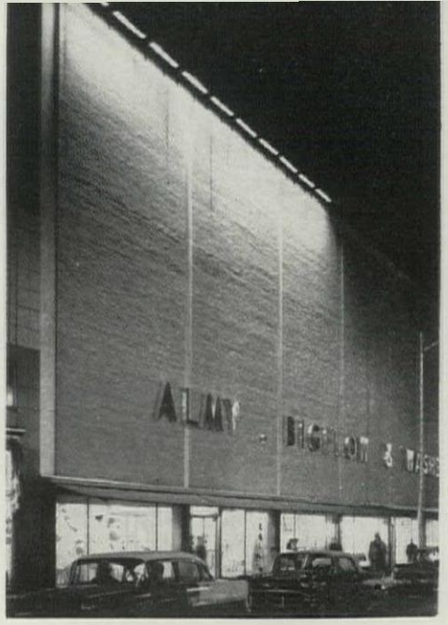
▸ Only in the past few years, have *fluorescent lights* begun to gain an important place in outdoor illumination. Until recently, fluorescents were impractical for outdoor use, because they could not provide the bright, directional light needed for outdoor use. But many developments, as typified by a new lamp from Westinghouse which increases the fluorescent's operating efficiency through a new mount design, have made the fluorescent light an attractive outdoor source. Another example of this is a recently developed high-output fluorescent which more than doubles the lumen output of the ordinary fluorescent lamp. Sylvania has developed a new concept of reflector design on the basis of this lamp's high output. It is called controlled fluorescent reflectance: when applied in a lamp, it directs the light so that there is a distinct angle of cutoff, allowing directional lighting with no exposed light to cause glare. This enables the lighting designer to place the fluorescent light source close to the ground, below eye level, without casting light into the visual field. Such a lamp can be applied to the lighting of streets, airport runways, and, in special instances, to building façades where insufficient space exists for the placement of conventional projector and reflector lamps.

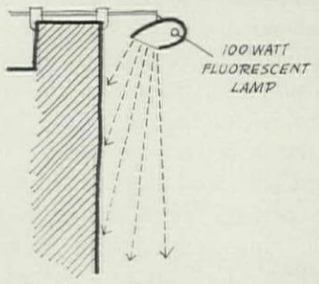
Lighting and design

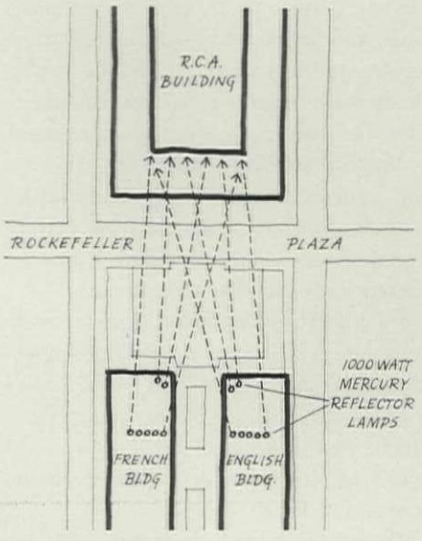
Perhaps the greatest hazard to successful outdoor illumination is the seeming simplicity of the task. This is demonstrated each Christmas, when the U. S. is turned into a nation of lighting experts, with lawns and main streets blossoming into a wild gamut of outdoor lighting designs. Amid this national fetish for improvisation, the professional lighting designer must somehow convey the message that there is a little more to nighttime illumination than merely spotlights in the shrubbery. Succeeding in this, he must next try to show that the best time to design an outdoor illumination scheme is before the architectural plan has solidified, rather than after all other work has been completed. As Richard Kelly says: "You don't just floodlight the façade after the building is complete and call it exterior lighting."

This is especially true with the metal and glass curtain-wall building. Note, for example, the difference in effect between Los Angeles' Tishman Building (page 131), which is lighted by exterior units, and the Seagram Building, where interior lighting serves as the source of nighttime illumination. The Seagram "tower of light" effect is achieved with a separate nighttime circuit of fluorescent lamps in the building's luminous ceiling. The exterior lighting for this building is only incidental—for "sparkle." It comes from newly installed underground lights, which highlight the trees, and from lights in the pools, which accent the fountains.

The necessity for early planning of nighttime illumination is most urgent in the case of an office tower. Nonetheless, even in the planning of large plazas and parking areas, which once

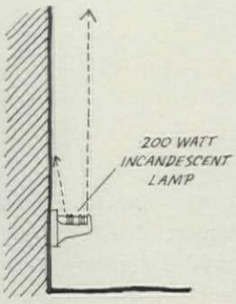


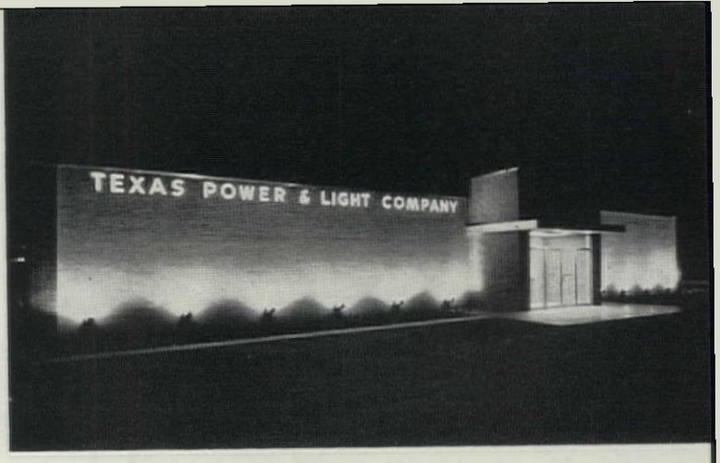




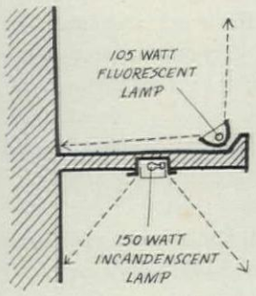


Fan of light *is provided by these wall-mounted units on Texas Power & Light's building in Waco. The light-and-shadow pattern will be less apparent as the shrubbery grows taller. The lamps are 200-watt units.*

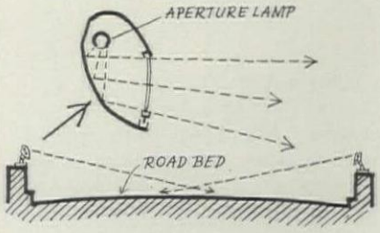




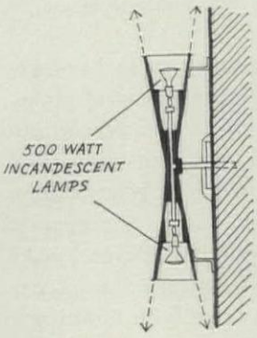
Facade *of Taylor's department store, in Cleveland, is lighted by fluorescent uplights and incandescent downlights, both of which are mounted on the canopy surrounding the building. The fluorescents are mounted some 10 feet from the vertical surface.*







Special fluorescents *are tested at the Almy, Bigelow & Washburn store in Salem, Mass. Sketch (left) shows how the fixtures are mounted to the top of the building. Sketch (above) shows how a specially designed fluorescent reflector intensifies the light which is beamed out of the lamp, through a narrow aperture.*

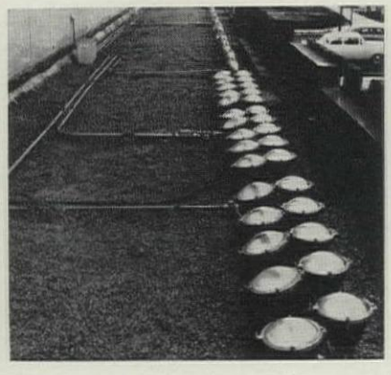




ALEXANDRE GEORGES

Dallas office tower, *the new Southland Center Building, was lighted at ground level by means of 500-watt incandescent lamps, mounted in a specially designed twin-cone fixture (sketch, left).*

65 stories of light: *two months ago, the plaza side of 30 Rockefeller Plaza was lighted by means of batteries of mercury reflector lamps, mounted on buildings across the street (photo and sketch, left).*



High-intensity floodlights *were necessary to light the Tishman Building in Los Angeles because of its high rise. The lights were mounted on building's canopy, then aimed by means of a two-way radio which enabled an observer to stand at a distance and instruct a second man who aimed the lamps.*



had been looked upon as "daytime" areas with little regard for nighttime use, the lighting consultant is now an important member of the design group. This was the case in the design of New York's Idlewild Airport and Washington's new Dulles International Airport in Virginia.

At Idlewild, the 160-acre plaza and parking area is lighted by clusters of mercury lamps atop 43 poles, each 75 feet off the ground. Thus, each of these units illuminates an area of four acres, providing the field with a level of illumination ranging from three to eight foot-candles—a further indication of the increased power of today's lamps.

The lighting of Washington's new Dulles International Airport at Chantilly, Va., will differ significantly from that at Idlewild. Instead of using fixtures very high off the ground, the designer—in this case, Richard Kelly —will place his lights quite close to ground level. Both the architect, Eero Saarinen, and Kelly feel that tall poles are esthetically irritating, both in daytime and at night. To achieve the desired effect, Kelly adopted a device he and Saarinen had used before, dropping the parking areas below road level, so that incoming drivers look down into parking areas as they approach them. Thus, although the parking-lot lights will be mounted atop 14-foot poles, the light sources will still be below the eye level of the approaching driver. To carry this idea further, he is designing all luminaires on the roadways to be mounted well below eye level, some 3 feet from the ground. "We did not want to draw any attention away from the airport structures themselves," says Kelly. "Thus, we have tried to light the approaches and parking areas as brightly and as unobtrusively as possible."

Lighting and the city

Probably no section of the urban community would benefit more from a generous application of night lighting than the downtown areas of our large cities. The operators of the most successful suburban shopping centers have demonstrated the value of ample lighting to the commercial life of the development. Many of the great cities of Europe have energized their tourist trade by lighting up their popular promenades and thoroughfares, such as Paris' elegantly lighted Champs-Élysées. Yet, in the U.S., the importance of good illumination to the commercial life of the ctiy has often been overlooked.

To be sure, most large cities have their well-lighted honky-tonk sections, such as the Times Square area of New York. And several have learned that high-level illumination in parks and "tough" neighborhoods is an excellent deterrent to crime. Flint, Mich., for example, experienced a 60 per cent decrease in nighttime crime in the downtown area in the first six months following its lighting modernization program. A recently completed six-year lighting program in Cleveland has been accompanied by a 44 per cent decrease in attacks and assaults on women and a 27 per cent decrease in street robberies.

No U.S. city seems yet to have exploited the potential of plentiful nighttime illumination to attract people into the downtown shopping district after dark. Indeed, the utility of good outdoor lighting is wasted if it is only applied as a new arm of the law. Beyond making downtown a safer place at night, good lighting can transform downtown into a festive place to which people will want to come.

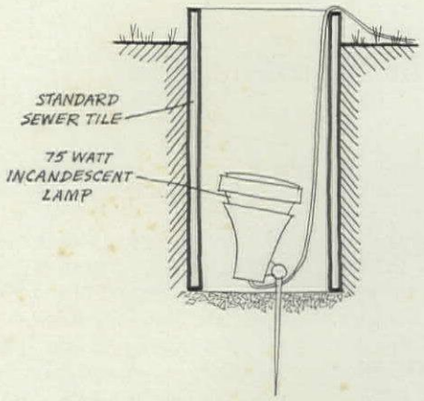
A few years ago, before lighting devices had reached their present high levels of light output and efficiency, such a transformation would have been an expensive undertaking. Today, when a single fixture can supply more light than six fixtures of the past, a high level of nighttime illumination is within the reach of most cities which seek ways to revitalize downtown. It is a matter now of simply applying the new technology of lighting. With wise application, night lighting can enhance architecture, stimulate commerce, and perhaps restore some of the village-green spirit to suffering cities.

Subtle lighting: *Richard Kelly wanted the outdoor lighting for New York's Frick Collection to "make people aware of the museum and garden, yet not hit the passer-by in the eye." He used underground incandescents to light the trees (sketch) and fluorescents to light the surrounding hedge. The curtains are lighted from the interior with incandescents.*

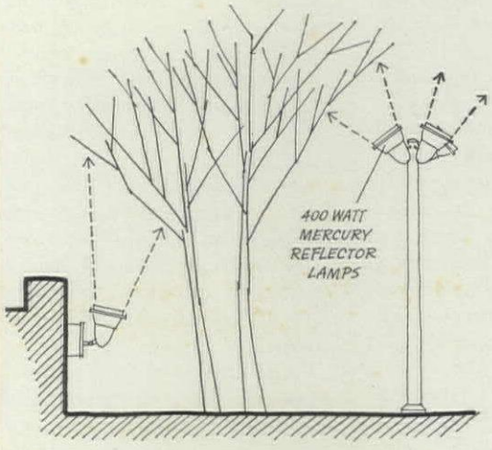
Lighting Central Park: *Abe Feder lighted the perimeter of the park, between New York's 60th and 70th Streets, with mercury lamps, some mounted in the trees and others on the ground, along the wall (sketch and photo, right). Play of shadows was important in this type of lighting, but not in a parking area, as at Idlewild (below) where Feder wanted an even level of illumination.*

Shadowless lighting *at Idlewild was achieved with specially designed poles, each 75 feet off the ground, whose mercury lamps cast an even level of light—between three and eight foot-candles—over a 160-acre area. Each pole provides lighting for about four acres.*

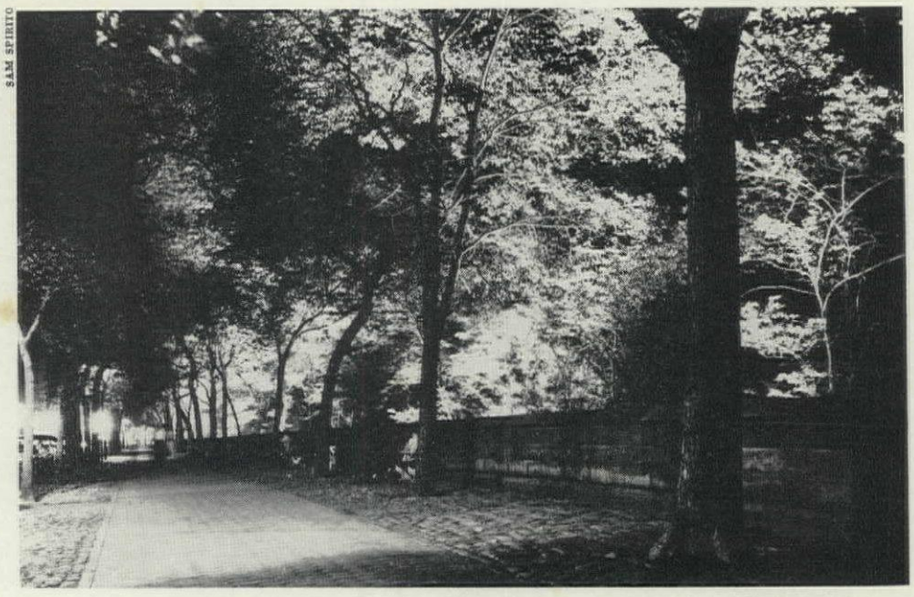
New quartz lamp: *the Raynham Dog Track, near Boston, is one of the first installations of a new kind of incandescent lamp: a tungsten-filament lamp encased in a tube of quartz. The lamp is 1/200th the size of a conventional lamp. Unlike conventional incandescents, it does not diminish in light output during its 2,000-hour life.*

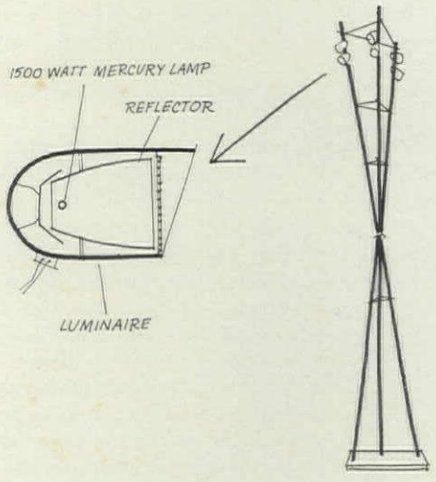




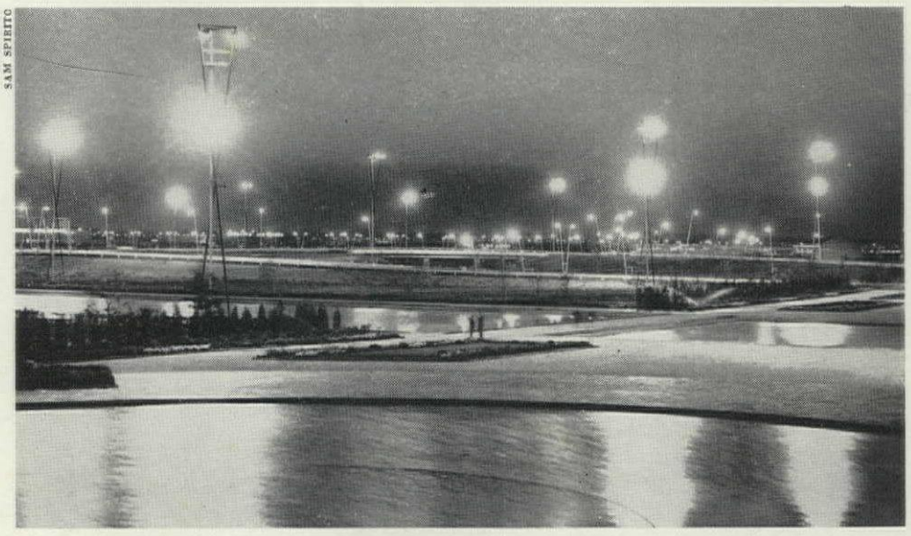


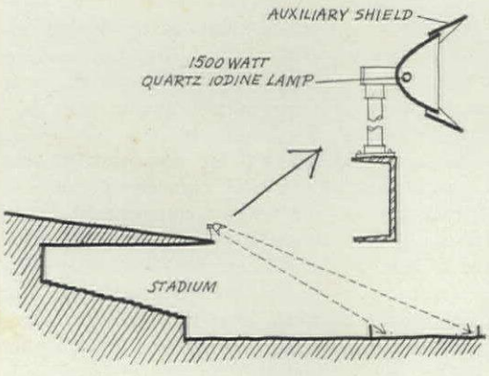
SAM SPIRITO

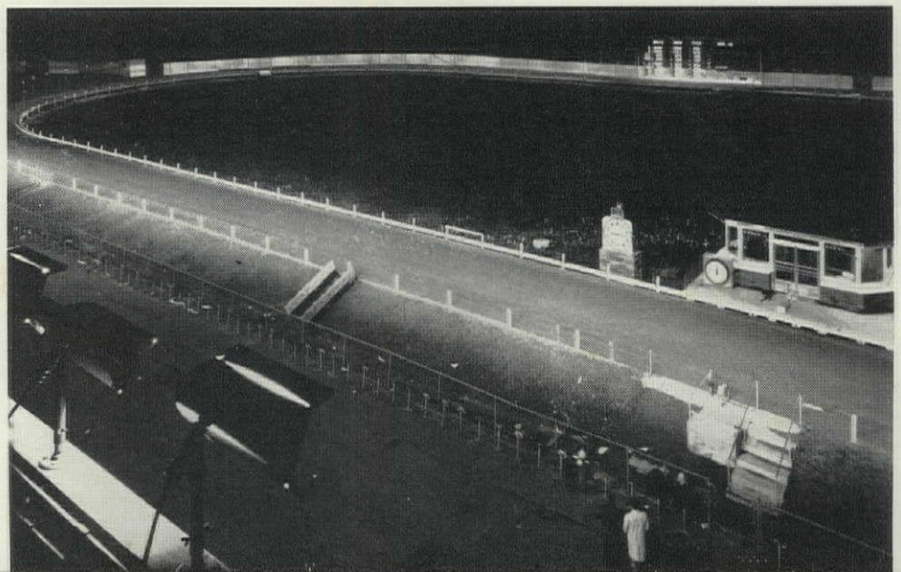




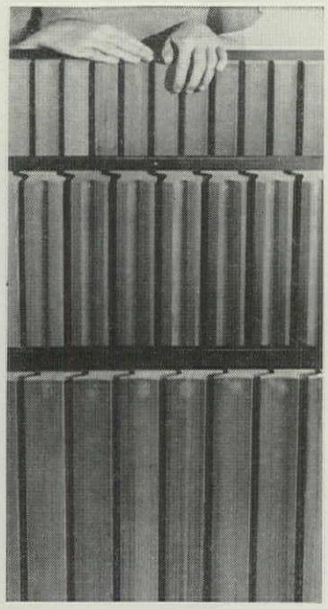
SAM SPIRITO







Screens for acoustics . . . lighting for rent . . . tactics for debirding



PHIL PALMER

? *How to panel a room in wood without cutting down the efficiency of the acoustical back-up.*

! *Use baffle-type paneling that will allow air-borne sound to pass through to the unseen sound-absorbing material.*

Many acoustical materials are decorative in themselves, but often it is desired to cover them with a custom-designed screen without interfering with their sound-absorbing qualities. To do this, architect Ernest Born uses natural-finished redwood panels composed of offset strips that are acoustically but not visibly transparent.

In the three prototype panels designed by Born (see photo), the wood strips are set ¼ inch apart to allow air-borne sound full access to the sound-absorbing materials installed between the supporting wall studs or ceiling beams. The front panel consists of overlapping 1 by 3 inch strips that have a slightly fluted front surface, intended primarily for walls that may be touched or rubbed against. The center panel is made of 2 by 3 inch strips with a more deeply fluted front surface, for walls where a shadow of greater depth or stronger texture would be appropriate. The rear panel is made of 1 by 2 inch strips and is meant mainly for ceilings, where the greater distance from the observer makes the use of irregular-edged offset baffle strips unnecessary. The new products committee of the California Redwood Assn. is studying the feasibility of stimulating commercial production and marketing of panels like these by its members. Meanwhile, an architect or builder who is interested in producing similar wood panels for concealing acoustically treated walls can have the strips milled locally to his own specifications.

? *How to cope with nuisancesome pigeons, starlings and their sometimes intimidating human friends.*

! *Subtly, and with no publicity, discourage them with traps and various bird-annoying devices.*

There is scarcely a city where kindly, well-meaning souls do not feed the pigeons in parks or public areas, oblivious to the nuisance and the cleaning and repair expenses their bounty causes. The pampered birds multiply in great numbers, nest in droves on the ledges of buildings, and continuously deface the façades. Starlings and sparrows, although not usually fed, also become a bane when an entire flock roosts on a building.

Working on the ounce-of-prevention theory, Architect Robert H. Alexander, one of the designers for the new Los Angeles County Hall of Records, commissioned Sculptor Malcolm Leland to make a study of methods for coping with the bird nuisance. Leland found various strategies for beating the bird problem.

For example, there are the "distress-call" recording experiments by the U. S. Air Force, which likes to keep starlings out of its hangars. In these experiments the Air Force held a captured starling by the legs and, while shaking it roughly, recorded its calls on a tape recorder. Later these calls were broadcast over mobile loudspeakers, and they rid one town of starlings after broadcasts for five nights.

Commercial chemical repellents applied to building surfaces are sometimes successful against pigeons, says Leland, but are often messy and need to be reapplied periodically.

Although it may be a never-ending process, trapping has been highly successful and relatively inexpensive in Los Angeles (around its city hall) and in some eastern cities. A city can employ a trapping service if it does not wish to build or rent traps and assign city workers to this job. If traps are used, birds can be removed and destroyed unobtrusively and humanely.

? *How to reduce the amount of capital required for extensive modernization projects, and possibly new construction.*

! *Make use of the growing number of leasing or rental-purchase arrangements that cover the cost of some major building elements.*

Conventional mortgage financing for a new building or a major modernization project ordinarily covers only about two-thirds of the total cost, and the owner must put up the other third in cash. In some cases, however, when capital can be used more profitably for other operations or under tax rules that allow rent payments to be treated as pre-tax expenses (instead of being treated as capital expenditures that must be depreciated over a long term), it may be advantageous to purchase new elevators or other major equipment on a rental-purchase contract (FORUM, March '59).

In the latest extension of rental-financing in the building field, the Smithcraft Corporation, of Chelsea, Mass., has announced a nationwide plan for easy-credit financing of electrical and lighting modernization, including sound-conditioned ceilings, if desired. At present, Smithcraft's plan requires that two-thirds of the job use a single national manufacturer's electrical and lighting products, but the purchaser can choose his own electrical contractor. After 10 to 20 per cent down, payments can be spread over a five-year period.

Although they have not yet financed the electrical and lighting installation in a new building, Smithcraft officials have received a number of inquiries about this possibility. They believe it is feasible, subject to an appropriate waiver or agreement with the holder of the permanent mortgage, and they expect that the first deals of this type will be negotiated in the near future. In such cases both the initial cost and equity investment in the building would be reduced. The owner, however, would have to pay the full cost of the equipment in rent charges over the next five years, instead of paying the portion that would have been included in the mortgage over the longer amortization period of the mortgage. In new construction this rental-sale plan is expected to encourage owners to make better-quality installations. Another advantage: if costs for a building rise sharply during construction and if the owner is pressed for cash but unable to obtain a larger permanent mortgage commitment, his financial position could be eased considerably by separating the electrical and lighting work from the main construction contract and having this installed on rental-financing.

MELAMINE LAMINATED PLASTIC surfaces have gone vertical. Wall paneling, wainscoting, partitions, shower stalls, push and kick plates. In stores, hospitals, hotels, churches, banks. They require minimum care. Never need painting or finishing. Clean with a damp cloth. Resist scratching, denting, chipping, cracking, burns and stains. There's a wide choice in colors and patterns, thicknesses and widths. Installation is easy, requires no special techniques. For literature helpful to the builder on melamine laminates and other products and materials made possible by Monsanto Plastics, use coupon below. Monsanto Chemical Company, Plastics Division, Springfield 2, Mass.



Monsanto®

MONSANTO ACTIVATOR IN **PLASTICS**

MONSANTO CHEMICAL COMPANY
Plastics Division, Room 750, Springfield 2, Mass.

Please send me A.I.A. file on MELAMINE LAMINATED plastic surface materials ( ) LAMINATED ARCHITECTURAL GLASS ( ) MOLDED DRAWERS for built-ins ( )

Name_____

Company_____

Address_____

City_____ State_____

Designed, fabricated and erected to stop

LEAKAGE

before it starts...

Here's how—

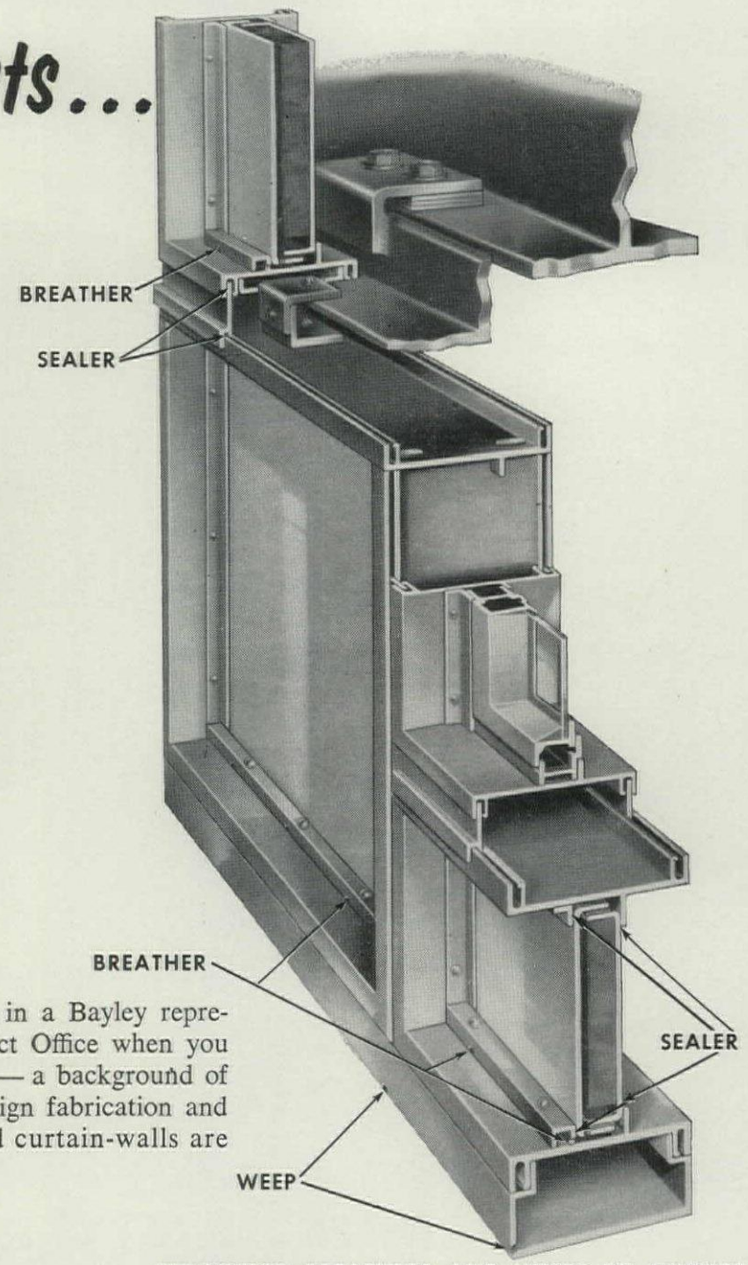
SPECIFY and INSTALL any one of the ten (10) BAYLEY curtain-wall systems and you are assured of:

1. **Adequate breathers and weeps scientifically positioned.**
2. **Proved sealants built-in during shop assembly of integral parts.**
3. **When erected, carefully selected reliable sealants are placed where and as they should be.**

And equally important — when we work with you on the development of the design, the details will provide for:

1. **Masonry and structural variations.**
2. **Wind load factors.**
3. **Contraction and expansion.**

Eliminate this problem — call in a Bayley representative or contact our District Office when you start the preliminary drawings — a background of 30 years experience in the design fabrication and erection of window-walls and curtain-walls are available to you for the asking.



STAGGERED BREATHERS AND WEEPS TO OUTSIDE

Bayley

WINDOW and CURTAIN WALL SYSTEMS

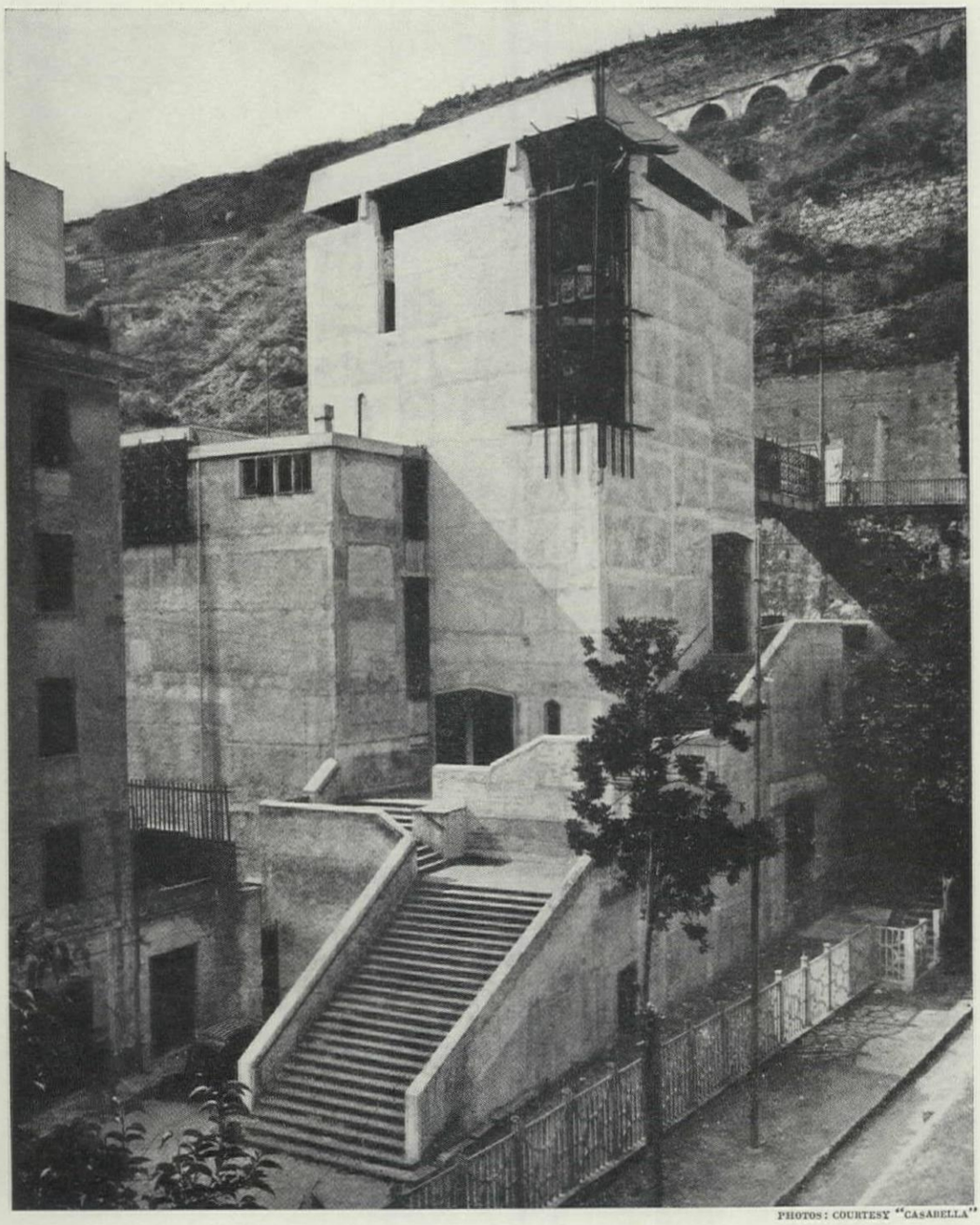
The WILLIAM BAYLEY Co.
Springfield, Ohio
Agents in All Principal Cities

District Sales Offices:

SPRINGFIELD, OHIO	NEW YORK 17, N. Y.	CHICAGO 2, ILL.	WASHINGTON 5, D. C.
1200 WARDER ST.	GRAND CENTRAL TERMINAL	105 W. MADISON ST.	1426 "G" ST., N.W.
FAirfax 5-7301	MUrray Hill 5-6180	RAndolph 6-5997	STerling 3-3175

ORIGINATORS • DESIGNERS • MANUFACTURERS • INSTALLERS

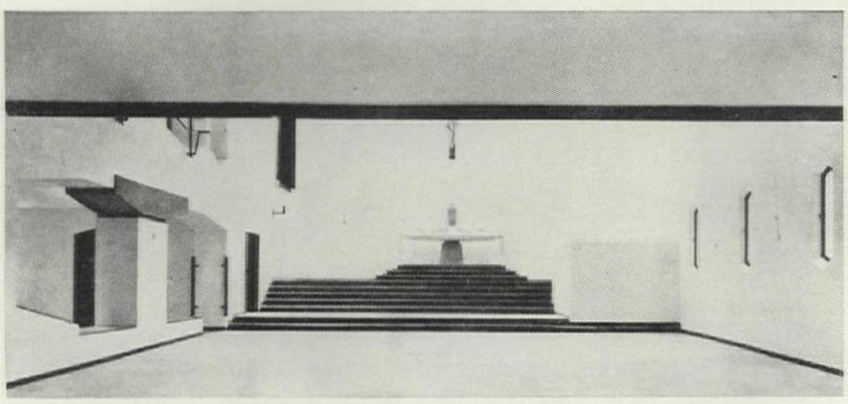
A continuing review of international building

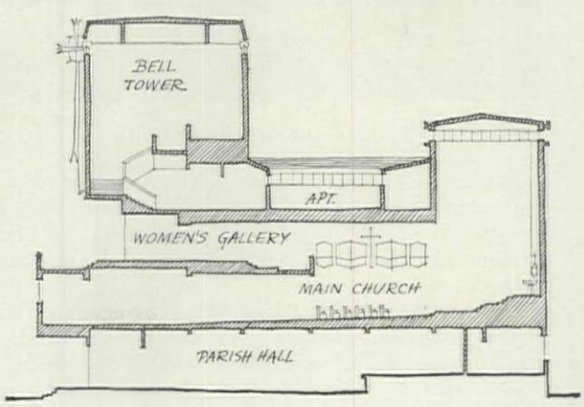


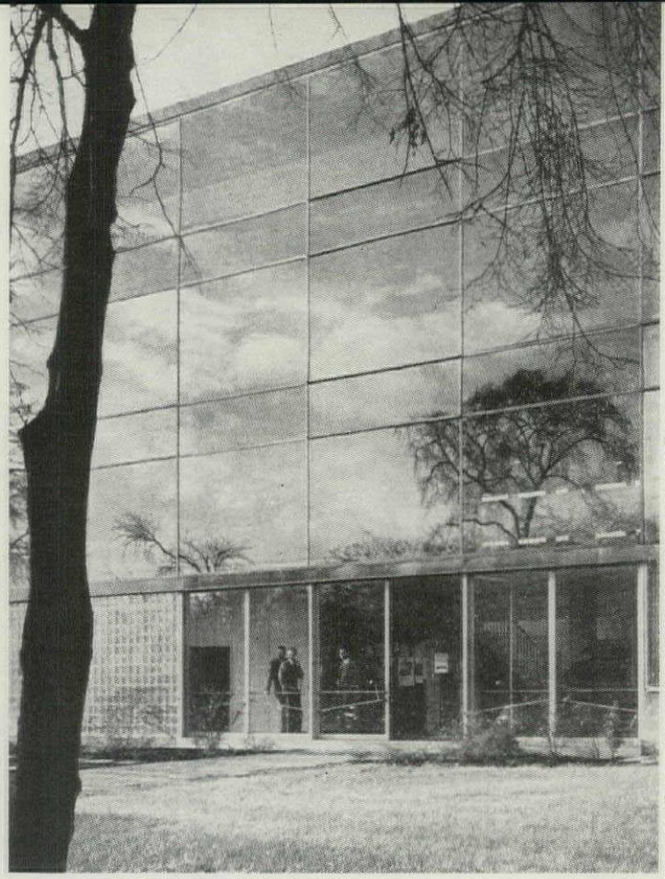
PHOTOS: COURTESY "CASABELLA"

GENOA TURRET

Italy's domination of contemporary church architecture is strengthened by this bold tower in an awkward corner of Genoa. Rising above a street that dead-ends in a terraced hillside, the tower admits visitors to the church at various levels. On the street floor is a small parish hall; on the main level is the church proper, whose floor (see section) slopes up to the altar; on a higher, interim level is the entrance to the women's balcony, which overhangs the church floor; above the balcony is an apartment for the priest and, above that, the bell tower. The architects, Adolfo De Carlo, Andrea Mor, Ludovico Quaroni, and Angelo Sibilla, have clearly marked the front of the church with a 32-foot, wrought-iron cross.



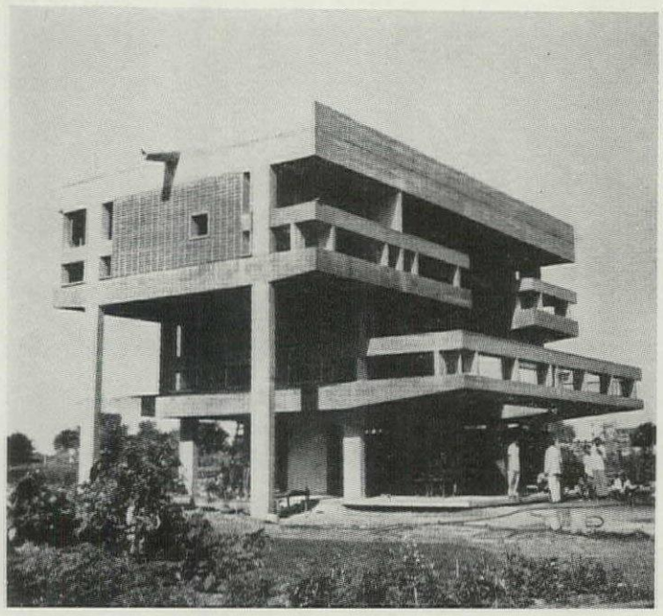




COURTESY "ARCHITEKTUR UND WOHNFORM, INNENDEKORATION"

GERMAN ILLUSION

It seems fitting that the last word in curtain walls should come from a textile research institute. For such an institute in Krefeld, West Germany, Architect Bernhard Pfau designed this wall, which looks like rows of plate-glass panels held in space by nothing more substantial than their narrow frames. Actually, the frames are tied into the building's reinforced concrete structure by narrow steel tubes at each of the three floors.



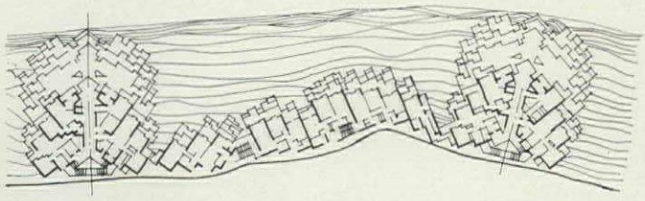
COURTESY "ARCHITECTURAL DESIGN"

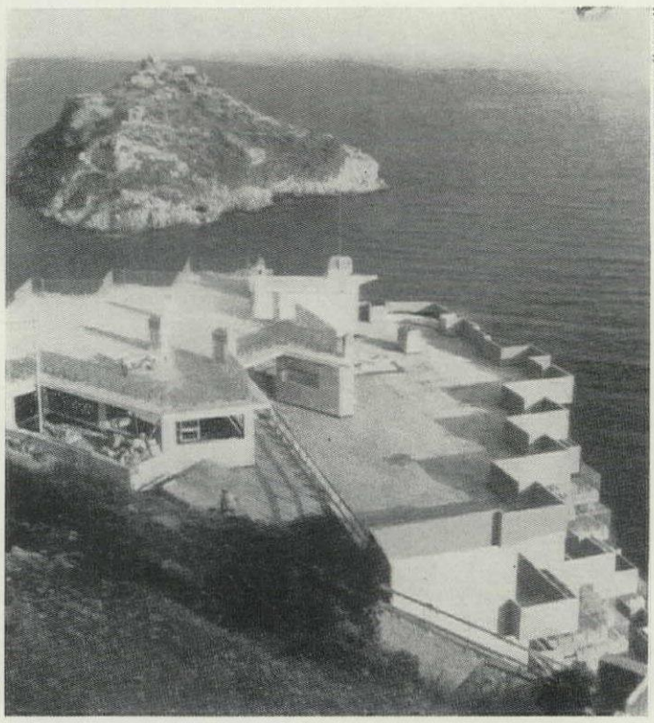
INDIAN PLANTATION

Verandas, shadowed porticos, and broad roofs that catch the breeze are basic to the vocabulary of tropical, aristocratic architecture in the U. S. or elsewhere. In India, the wealthy mill owners of Ahmedabad have commissioned several houses from followers of Le Corbusier who express these hot-climate features in the master's strong idiom. The Chinubhai House, by Vasu Shilpa, with its living areas and balcony bedrooms raised above a ground-floor porch, is one of the more notable plantations.

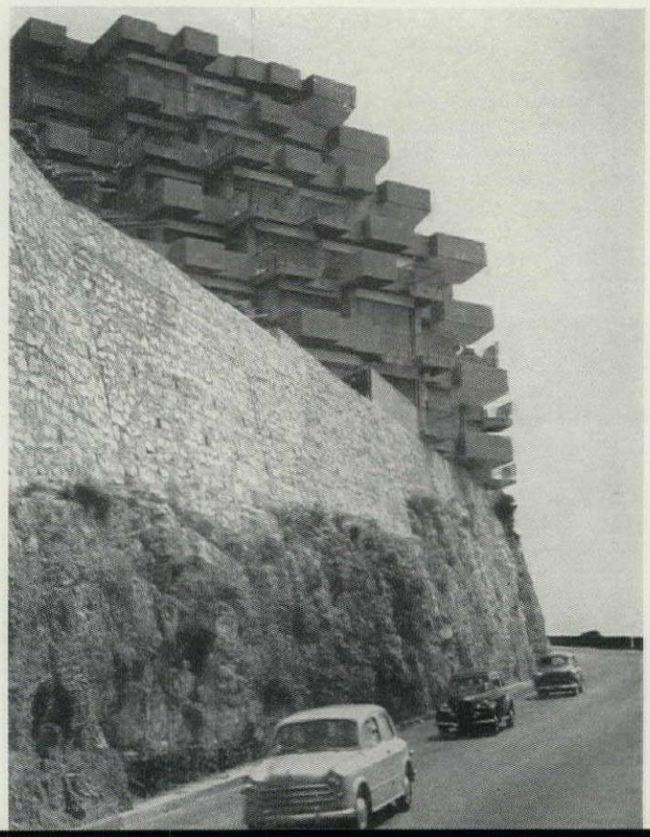
RIVIERA AVALANCHE

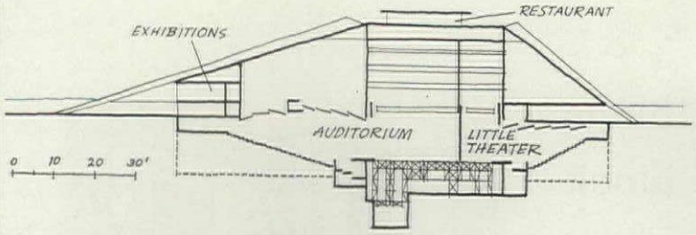
Tumbling down into the Mediterranean along the Italian Riviera is this precipitous apartment development, planned by Architects Mario Galvagni and Carlo Fellenberg. As well as standardized tourist units, the cliff-hanging development includes facilities for more permanent residents: a theater, shopping center, sports center, church, and library. But the most remarkable feature of the development is that it exploits the views offered by the site without defacing the landscape in the process.





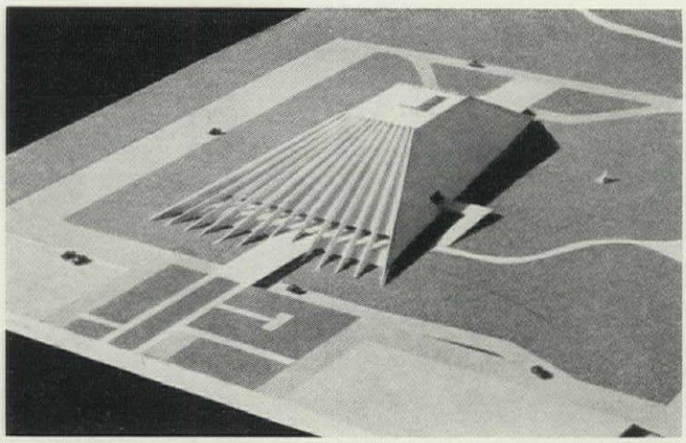
PHOTOS: COURTESY "BOUW"



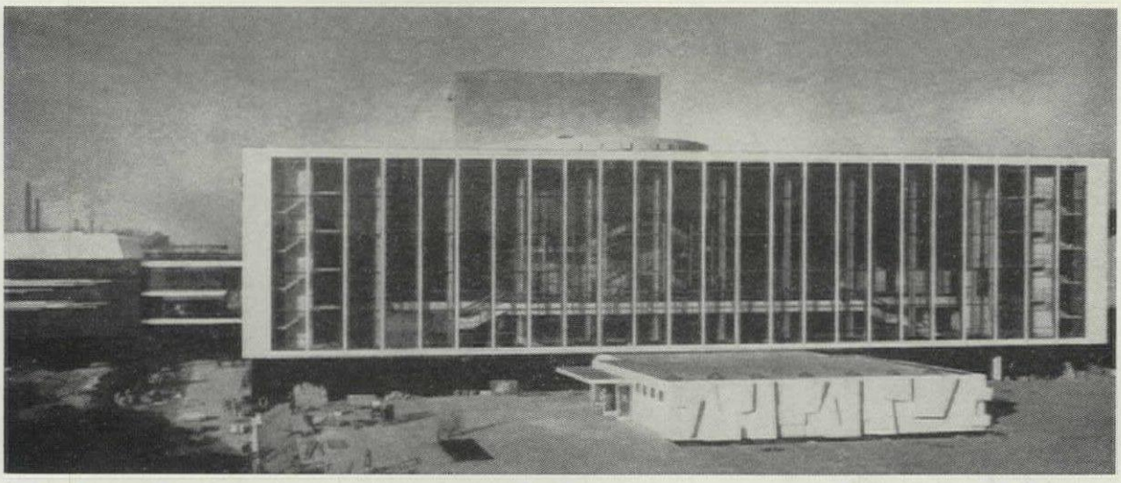


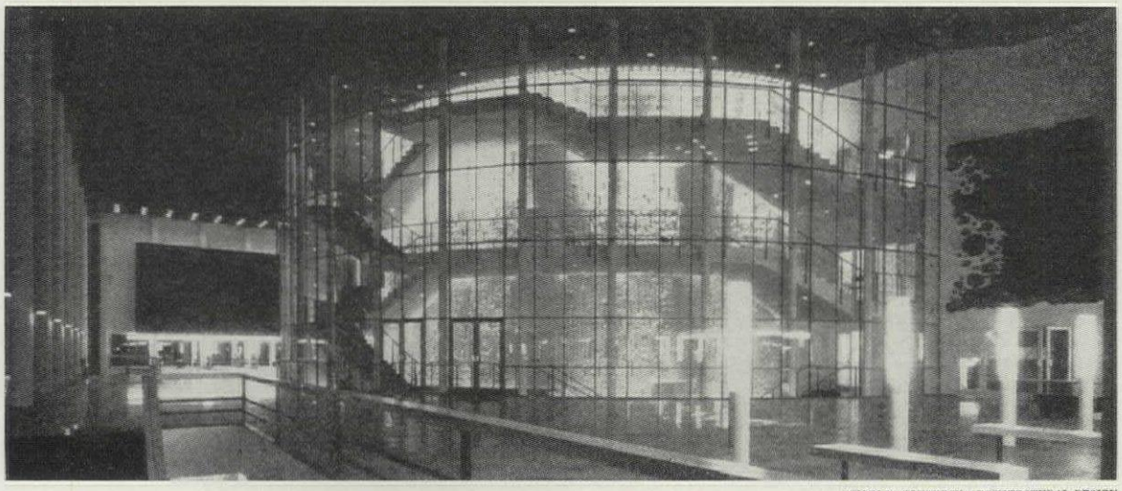
BRASILIA PYRAMID

The latest building projected for Brasília is Oscar Niemeyer's theater, which recalls in form the Aztecs' truncated pyramids. The theater is actually two auditoriums (the larger for opera, the smaller for drama) on either side of one lofty stagehouse. In both auditoriums the orchestra level may be adjusted by hydraulic lifts; and in the larger (capacity: 2,000), stage elevators and rolling platforms allow five scene changes to be made in a matter of seconds. Atop the stagehouse is a penthouse restaurant and lounge.

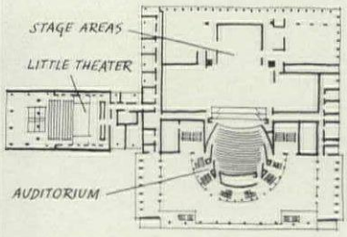


COURTESY "MODULO"





PHOTOS: COURTESY ARCHITECTURAL DESIGN



RUHR DRAMA

No other theater in Europe has been so successful in combining the machines necessary for professional theatrical productions with the artistic talents necessary for a proper cultural environment as the 1,050-seat Gelsenkirchen Civic Theater in the Ruhr. In planning the theater, Architects Werner Ruhnau, Ortwin Rave, and Max von Hausen heeded professional demands that the backstage spaces be vast (see plan, above), that the stage be flexible enough to suit various dramatic demands (three different proscenium locations and openings are allowed), and that a smaller "experimental" theater be built alongside (at left in photo left, above). The blue abstract mural beside the glazed drum of the staircase (lower photo) is by Yves Klein.

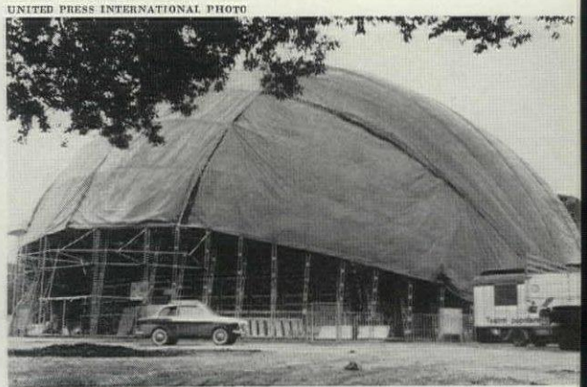
ROMAN CIRCUS

Vittorio Gassman, better known for his stage and screen activities than for design, is credited with the creation of this portable theater, shown being erected in Rome's Borghese Gardens. The structure consists of two elements: 1) a domelike, steel-framed auditorium, which, when roofed over with drop cloths, seats 3,000 spectators; 2) a 65-foot-high stagehouse.

A P PHOTO



UNITED PRESS INTERNATIONAL PHOTO



Great new things are shaping up in concrete block



For information on bond beam block, illustrated above, see your local concrete block manufacturer.

Atlas Masonry Cement provides the right mortar

Even standard masonry units such as the bond beam block are being used to create decorative patterns in exposed masonry construction. The effect shown was achieved with this block in two sizes, laid back to back to form a screen-type wall.

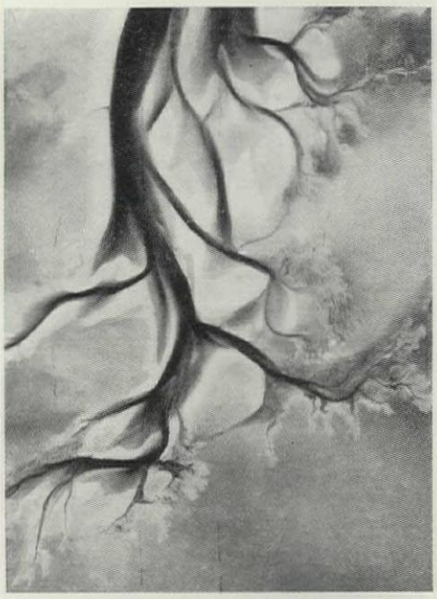
Whether standard building block or any of the new-type masonry units are used, ATLAS MASONRY CEMENT provides the right mortar. That's because it produces a smooth, easy-to-work mortar . . . assures a stronger bond . . . gives weathertight joints that are uniform in color. And ATLAS MASONRY CEMENT meets ASTM and Federal Specifications. For information on masonry cement, write Universal Atlas, Dept. M, 100 Park Avenue, New York 17, N. Y.

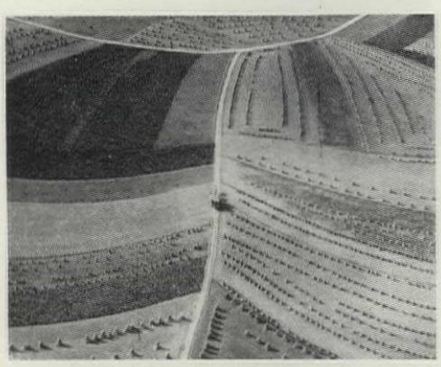
Universal Atlas Cement
Division of
United States Steel

M-80
"USS" and "Atlas" are registered trademarks

OFFICES: Albany • Birmingham • Boston • Chicago • Dayton • Kansas City • Milwaukee • Minneapolis • New York • Philadelphia • Pittsburgh • St. Louis • Waco

Airviews . . . anthologized Wright . . . dymaxion Fuller





EUROPE FROM THE AIR. By Emil Egli and Hans Richard Muller. Published by Wilfred Funk, Inc., 153 E. 24th St., New York 10, N.Y. 223 pp. 9" x 11¼". Illus. $15.

Aerial photography, an intelligence tool capable of generating ample international friction, can also contribute some surprising perspectives to man's understanding of his fellows and his world. The value of this book is that it tends to confirm the visual man's belief that life can be ordered in patterns of beauty and meaning.

The spectacle of nature and civilization at work is perhaps nowhere so richly concentrated as on the small, green, crowded continent of Europe, where successive centuries have carved a fantastic variety of landscapes seen fully only from the air: the plantlike patterns traced by the retreating tide on the mud flats of the North Sea (photo left); the full, simple grace of Belgian harvest fields; the deadly beautiful star shape of an old fortified Italian town. Among 184 photographs from several dozen sources are others of varying freshness and merit (including 11 color plates), from new angles on old architectural masterpieces to old angles of new industry, transportation, and urban spread. The book, nicely printed in Switzerland and translated with occasional sharp insights from the German, tried to embrace too much to be a truly pointed work.

But the best of it provides some unexpected beauty, and the fascination of inspecting other people's problems from above.

FRANK LLOYD WRIGHT ON ARCHITECTURE: SELECTED WRITINGS (1894-1940). Edited with an introduction by Frederick Gutheim. Published by The Universal Library, Grosset & Dunlap, Inc., 1107 Broadway, New York 10, N.Y. 275 pp. 5⅜" x 8". Paper-bound. $1.65.

FRANK LLOYD WRIGHT: WRITINGS AND BUILDINGS. Selected by Edgar Kaufmann and Ben Raeburn. Published by Meridian Books, Inc., 12 E. 22nd St., New York 10, N.Y. 346 pp. 4¾" x 8". Illus. Paper-bound. $1.95.

Browsers in paper-back bookstores now have two choices of the selected writings of Frank Lloyd Wright. Frederick Gutheim's book is a reprint of the famed version that helped, along with Hitchcock's *In the Nature of Materials* and FLLW's own *An Autobiography*, to reintroduce the work and thought of the master architect to the American public in the late thirties. The new Kaufmann-Raeburn joint effort depends heavily on Wright's later books published by Raeburn's own Horizon Press.

Of the two, the latter is the more helpful. It contains not only a well-developed sequence of writings but an accompanying series of pictures and building plans. At the back is a handy up-to-date list of the buildings built to Wright's designs.

Gutheim's book, in paperback, has the same well-known drawbacks of the earlier hard-cover edition: the writing has been too heavily cut, thus achieving the lamentable goal of making the anthology harder to understand or enjoy than the original.

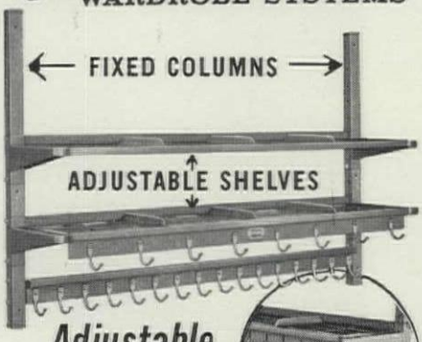
HIGHWAYS OVER BROAD WATERS. The life and times of David B. Steinman. By William Ratigan. Published by Wm. B. Eerdmans Publishing Co., Grand Rapids, Mich. 360 pp. 6" x 9". $6.

This is an affectionate biography of one of the outstanding engineers of our time, David B. Steinman, the designer of more than 400 bridges, including Michigan's famed Mackinac Bridge, which is perhaps

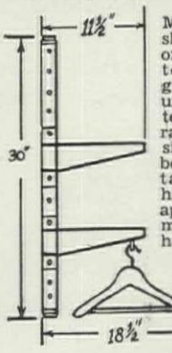
continued on page 144



Schooline®
WARDROBE SYSTEMS



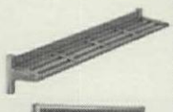
Adjustable
WALLMOUNT
HAT AND COAT RACKS
with coat hangers



Mount directly on any wall—shelves adjustable for height on permanently fixed columns to accommodate any age group. 3'2" and 4'2" long units fit in anywhere or interlock to make continuous racks of any lengh or desired capacity. Double rails below double hat shelves take coat hooks or coat hangers. Hold wraps spaced apart in orderly, healthful manner. 5-6 hooks or 3-4 coat hangers per running foot.

Fireproof, vermin-proof, strong beyond need. Lifetime construction—welded heavy gauge steel, baked enamel finish.

OTHER Schooline® UNITS



Wallmount™ Overshoe Racks mount on wall at base board. Keep overshoes paired, and off the floor. Come in matching units of Wallmount hat and coat racks. Have same interlocking and construction finish.

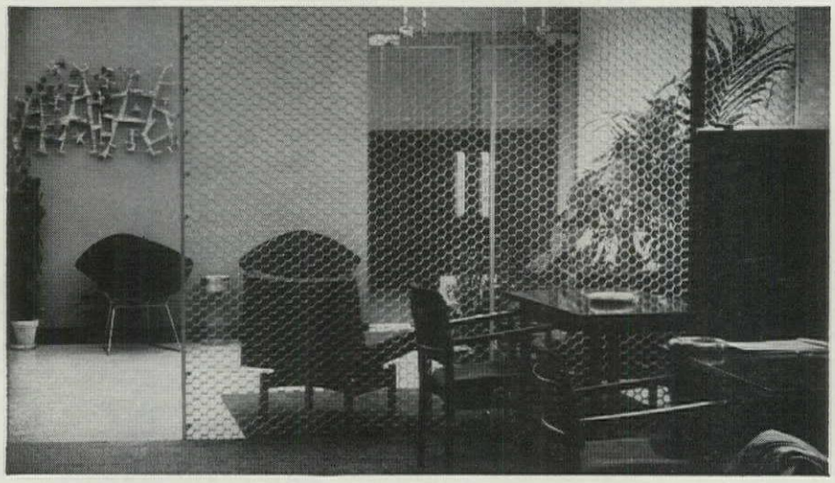


Multiple purpose 4 ft. wide wardrobe racks backed with chalkboard (The Chalkrobe®) or corkboard (The Corkrobe®). Come on glides or casters for extreme flexibility and efficiency in use of space. Also available with closed base for use as movable room dividers.

Write for Schooline Catalog SL-48

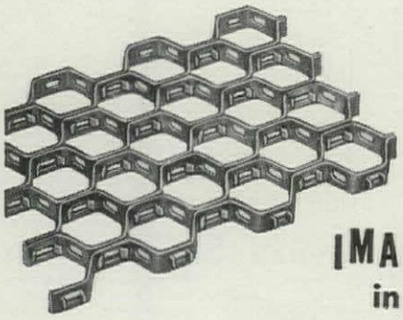
VOGEL-PETERSON CO.
Rt. 83 and Madison St. Elmhurst, Ill.

CUSTOM EFFECTS in ORNAMENTAL GRILLES at low cost!



IRVICO'S mass production of "ALUMINUM GRIDSTEEL" now enables the designer to achieve the "custom look" in grillework economically.

"ALUMINUM GRIDSTEEL" is a honeycomb mesh that allows great flexibility in scale and texture, and diversity of application. Its third-dimension affords varying degrees of opacity depending on angle of view.



"ALUMINUM GRIDSTEEL" is available in rigid or flexible panels of various sizes... anodized, painted or mill finish.

•

Write for colored brochure

IMAGINEERING in ALUMINUM "GRIDSTEEL"®



IRVICO®

IRVING SUBWAY GRATING CO., Inc.

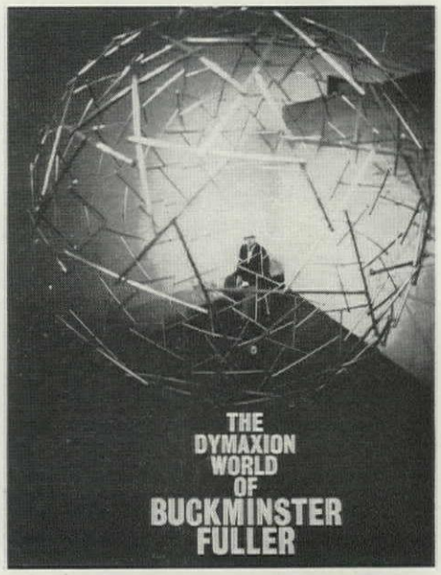
ORIGINATORS OF THE GRATING INDUSTRY

Offices and Plants at
5061 27th St., LONG ISLAND CITY 1, N.Y.
1861 10th St., OAKLAND 10, CALIFORNIA

his best-known popular achievement.

The biography traces the dazzling career of Steinman, from his childhood days in New York City to his present position of eminence among the honored scientists of the world: in 1954, for example, he received the William Proctor Prize for Scientific Achievement, regarded as the highest scientific honor in the Western Hemisphere.

A brightly written biography.



THE DYMAXION WORLD OF BUCKMINSTER FULLER. By Robert W. Marks. Published by Reinhold Publishing Corp., New York, N.Y. 232 pp. 8½" x 10½". Illus. $12.

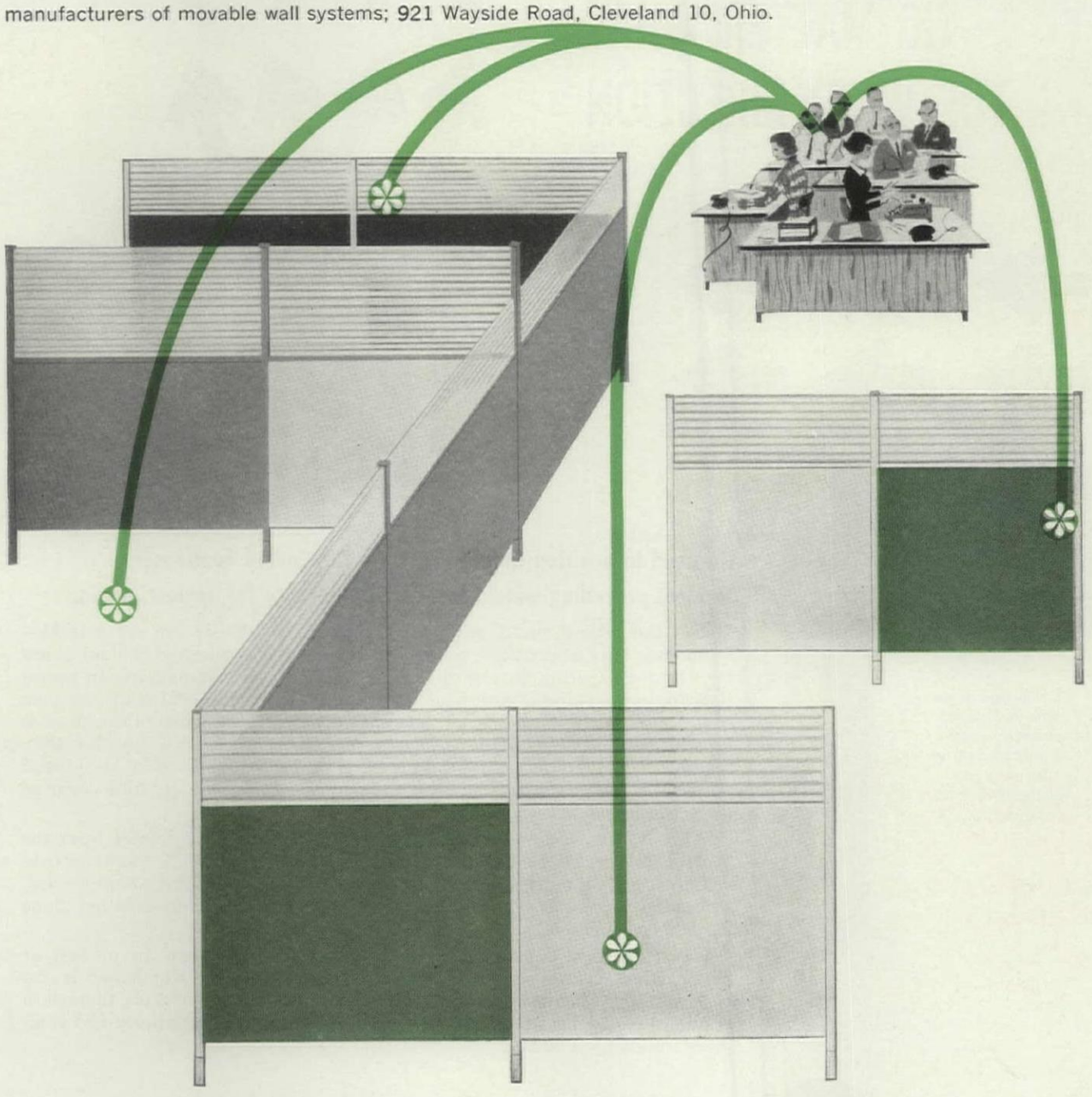
To the present generation, Buckminster Fuller is perhaps best known as the creator of the geodesic dome. A generation ago, he was equally well known as the creator and proponent of "dymaxion" living: the dymaxion house, the dymaxion automobile, the dymaxion airplane. (The word "dymaxion" is used again and again by Fuller to qualify the implication of his various inventions. Anything dymaxion will perform with the greatest possible efficiency in terms of the available technology.)

Indeed, Buckminster Fuller seems to turn into a whole new person with each new generation. The only constants are his originality and his integrity. Frank Lloyd Wright called him "a man with more absolute integrity than any man I have ever known."

This is a thoroughly documented account of the many careers of this inventive man—really the first complete presentation of his life and work. The author, Dr. Robert Marks, is a member of the Graduate Faculty of the New School for Social Research. He has been a Fuller "advocate and interpreter" for some 18 years. This work is an important contribution to the world of technology and letters, for it is a necessary guidebook to a layman's understanding of one of the century's most creative men. END

Instant Space Control ✻ by Mills

This is Mainliner—a new control for the planner challenged by an exploding office population. It is the only free-standing partition built to match the design and quality of Mills full-height wall systems. Mills' experience in wall-craft invests the Mainliner with superior finish, construction and versatility. Mills representatives are now showing further examples of Mills-conditioned office space; you may see them by writing to us, The Mills Company; since 1921, manufacturers of movable wall systems; 921 Wayside Road, Cleveland 10, Ohio.



Space-Conditioning:
a total concept by Mills.
Control • Comfort
Privacy • Efficiency
Beauty

MILLS

NEW LOW SILHOUETTE FANDAIRE AIR-COOLED CONDENSERS

ALWAYS FACED RIGHT —NO MATTER WHAT THE WIND DIRECTION





Exclusive Aimco fintube design provides high-heat dissipating efficiency for circular Fandaire condensers.

No need to position circular Fandaire Air-Cooled Condensers to meet prevailing winds. Just set it anywhere for easiest piping.

Here's the newest, most advanced air-cooled condenser on the market—Fandaire! This modern low silhouette condenser is engineered around a new high-heat dissipating fintube of exclusive design and manufacture. In operation, the entire spiral of fintubing is surrounded with a circle of swiftly moving cool air for highest cooling efficiency. Every degree in temperature drop is fully utilized as this circular design captures the wind from *any* direction, regardless of placement or location. A powerful fan pulls cool air in and pushes warm used air up and away. Fandaire's constant gravity tube drainage gives continuous movement to condensate.

With its low, clean-lined silhouette, Fandaire does not detract from the general architectural effect of the building. And weighing ⅓ less than conventional installations, the Fandaire usually can be positioned where needed, without guy wires or extra bracing. Savings in piping and installation alone may be considerable.

Where there is a problem of architectural compatibility, or of cost or performance, chances are the new Fandaire Air-Cooled Condenser is the best solution. Engineered in sizes from 3 to 120 tons per unit, there is a Fandaire model for practically all single or multiple installations. Get complete information today.

YUBA

specialists in circular air-cooled condensers

YUBA-AIMCO DIVISION

801 West 21st Street, Tulsa, Oklahoma

YUBA CONSOLIDATED INDUSTRIES, INC.

Sales Offices in Atlanta • Buffalo • Chicago • Cleveland • Houston • Los Angeles • New York • Philadelphia • Pittsburgh • San Francisco • Seattle

Architects . . . malls . . . D.P.'s . . . senses

THE ARCHITECT'S FALLACIES

One of the more memorable speeches at the April A.I.A. Convention was that of Dr. C. Northcote Parkinson, Raffles Professor of History, University of Malaya. Dr. Parkinson wryly noted three weaknesses in the architect's armor.

There are a number of obstacles to beauty which the architect himself tends to introduce. I shall limit myself to three, mainly in case the crowd should get ugly and I should have to escape by the fire exit.

The architect's first temptation is to think himself a god. He devises a master plan—Capital "M"—Capital "Plan." And this we are to understand is to control a city's destiny for the next half century. Master plans, as we all know, are always discarded after 20 years, and usually after five. The sad fact is that the architect is not God, and especially he is not God in not being immortal. We don't live long enough to implement any master plan and our successors when they succeed us are apt to have ideas of their own.

If there is to be a plan, I beseech you to avoid having all the streets at right angles. This has been a bugaboo of the U. S. for a very long period. It seems to have been based on some beautiful nineteenth-century rational idea of man's mastery over nature. Looking at the Middle West from an aircraft I was able to remark afterward, though I had not seen the whole of Illinois, I felt that I could readily find the parts I hadn't seen.

The architect's second temptation is to use the word "functional," which he derives as a concept from John Ruskin. Knowing nothing whatever about building but endowed with a remarkable literary gift, Ruskin was responsible for a work called *The Seven Lamps of Architecture.* It was Ruskin's inspiration that a building should be honest, should express—I quote —"integrity," express its person, its purpose, and like every Victorian Masterpiece on canvas, tell its story.

From this injection of Victorian morality, our schools of architecture have never fully recovered.

There are still people about who want a water tower to look like, heaven help us, a water system. John Ruskin would have loved them. But the whole idea of functional architecture should surely have been buried with Queen Victoria. If we must talk dribble, let us find some more recent dribble than that period.

The architect's third temptation—and here I am treading on even more delicate ground—is to read and absorb architectural journals.

The modern architect studies the professional journals. And, ask him to design a building on a hillside, he will begin with bulldozers, muttering the while about its technical advantages—chiefly to save him visiting the site more than once.

From that point all can be done on the drawing board. It then becomes obvious that the emerging plans are not intended to satisfy the client at all. They are meant first and foremost to publish in the journal. And publishing them in the journal, the chief motive is normally to annoy some other architect.

One result of this can be seen in the contemporary auditorium. You know the building I mean. I first saw this umbrella or big-top design at the Festival of Britain, where it was called "The Dome of Discovery." It followed me to the Far East and turned up at Singapore. I next saw it under construction at the much revered University of Illinois. Every campus is bound to have one in the end. It is invariably planned amid talk about classical concepts but is actually used for playing basketball.

The idea may be an excellent one but I question whether so many different problems—different in climate and local background—should only be solved, or should all be solved in the same way.

MALLED TO DEATH

A clear statement that malls by themselves are not the answer to downtown problems was made by John W. Hyde, professor of planning in the College of Architecture and Design at the University of Michigan, in "The Michigan Journalist."

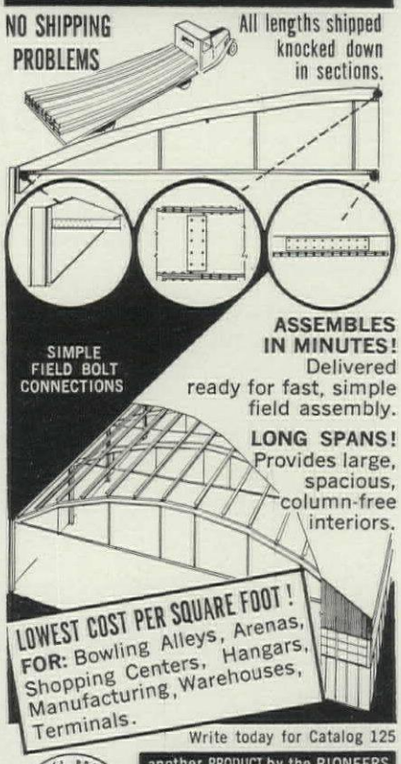
Unless the mall is developed as part of a revitalized whole, together with buildings, reorganized space, adequate parking service areas, and settings for buildings; unless the whole area is conceived of and designed as a unit, the mall may easily be only a temporary solution and a perpetuation of present disorganized conditions.

There is real danger that lack of planning may permit some cities to be malled to death. A more complete approach to the city's problems may not be taken because of blind belief in the power of malls to save an old commercial district.

A downtown area gets nowhere by trying to retain businesses which, however justified originally, aren't going to survive. There must be an economic justification for a business. If it can be carried

continued on page 148

SHLAGRO
TIED ARCH-BEAM
SPANS 40' to 130'



LOWEST COST PER SQUARE FOOT! FOR: Bowling Alleys, Arenas, Shopping Centers, Hangars, Manufacturing, Warehouses, Terminals.

Write today for Catalog 125

another PRODUCT by the PIONEERS of SQUARE columns!

SHLAGRO
STEEL PRODUCTS CORPORATION
SOMERVILLE, MASS.

I am interested in Shlagro Tied Arch-Beam and other Shlagro Products checked below:

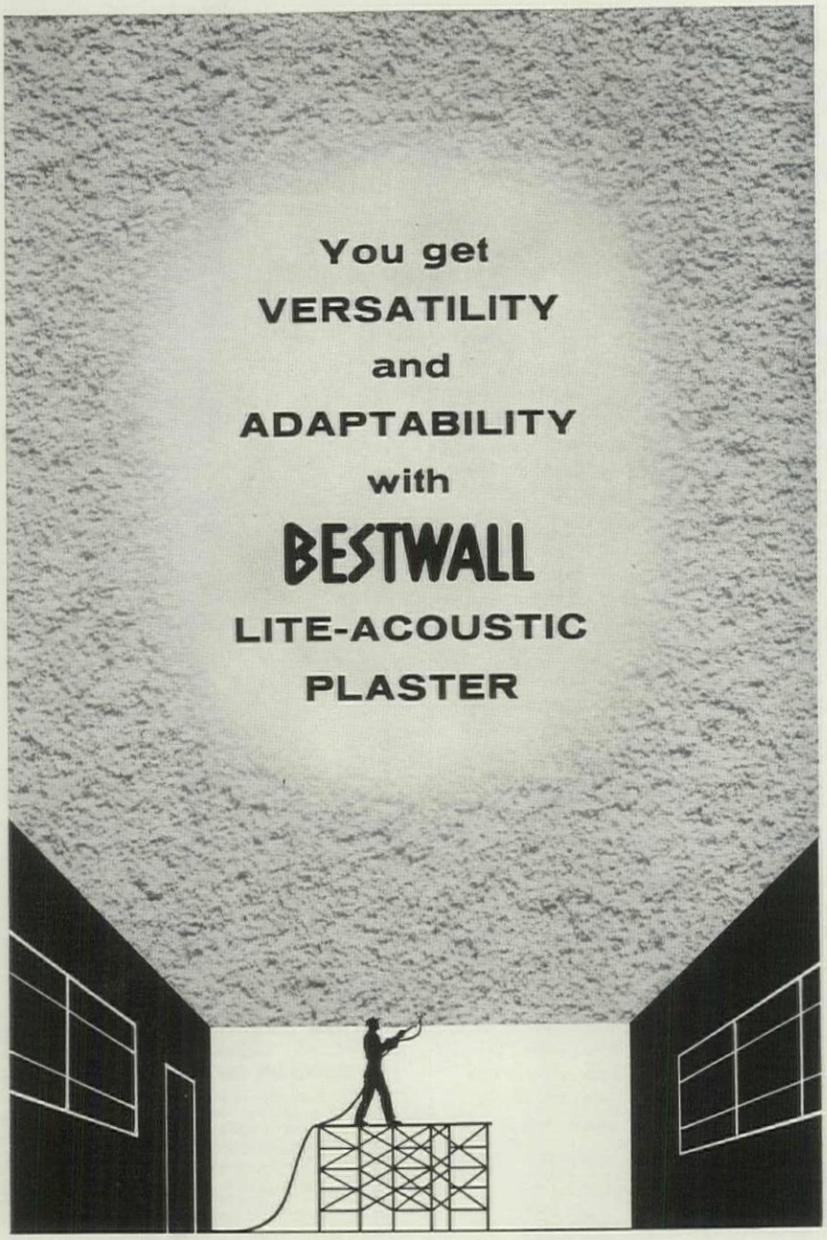
- ☐ #125 — TIED ARCH-BEAM
- ☐ #100 — STOCK STEEL ROOF TRUSSES
- ☐ #150 — STOCK STEEL LONGSPAN JOISTS
- ☐ #200 — SQUARE STEEL COLUMNS
- ☐ #225 — KARRI-MORE SQUARE COLUMNS
- ☐ #250 — SHLAGRO SHEAR HEADS
- ☐ #300 — STOCK STEEL TURNTABLES
- ☐ #350 — SCAFFOLDING
- ☐ #375 — SHLAGRO NO-DIAGONAL LONGSPAN JOISTS
- ☐ #400 — EGG-SHELL STEEL PLATE ROOFS
- ☐ #450 — SHLAGRO DOME STRUCTURES
- ☐ #500 — STOCK STEEL RIGID FRAMES
- ☐ #550 — STOCK STEEL VERTICAL MEMBER TRUSSES
- ☐ #600 — STEEL VERTICAL LIFT DOORS
- ☐ #650 — NO SHELL PRE-CAST FIREPROOF REINFORCED CONCRETE COLUMNS
- ☐ #700 — STEEL FLOORSPAN GIRDERS
- ☐ #725 — SHLAGRO TRIANGULAR GIRDER
- ☐ #750 — STEEL WELDED PIPE TRUSSES
- ☐ #775 — KARRI-MORE BEAM AND GIRDER
- ☐ #800 — STOCK STEEL MOMENT CONTOUR BEAM AND GIRDER
- ☐ #825 — SHLAGRO TAPERED GIRDER
- ☐ #850 — PREFAB BUILDINGS FLAT ROOF
- ☐ #875 — PREFAB BUILDINGS PITCH ROOF

name_____

title_____

AF-7

Please attach to your professional letterhead and mail to:
SHLAGRO STEEL PRODUCTS CORP
SOMERVILLE, MASS.



Bestwall Lite-Acoustic can be applied over monolithic surfaces, wallboard, oil paint—any clean, firm, water-resistant surface. It is designed for machine application, and various textures are easily obtained by simply adjusting the nozzle.

Also, Lite-Acoustic is highly sound-absorbent—noise reduction coefficient is .55-.60—and provides a highly decorative texture. The white finish reflects up to 69% of light, the ultra-white 74%.

Get complete information on Bestwall's full line of lath and plaster from your Bestwall representative.

BESTWALL GYPSUM COMPANY
Ardmore, Pennsylvania
Plants and offices throughout the United States

YOUR BEST BUY IS FIREPROOF GYPSUM BESTWALL® BUILDING PRODUCTS

on more efficiently in the suburbs, then it should be in the suburbs.

An urban business center is really a cultural center, a place where people like to meet, where they like to shop. Private and public agencies need to be aware of this. If these areas are properly handled and reorganized, they will naturally furnish the best possibilities for renewed activity.

Besides malls, cities have given little attention to overcoming their physical and functional obsolescence. Other approaches must be considered. Downtown businessmen, as well as public bodies, haven't used enough of their capital for redevelopment. Government subsidies and redevelopment corporations are used mainly in aiding housing projects, not downtown business areas. Redevelopment should involve an integrated approach to problems of housing, commercial areas, and industrial renewal as well.

DP'S IN THE CITIES

Both highway and redevelopment programs are creating a class of American D.P.'s. M. Carter McFarland, director of the HHFA's Division of Economics and Program Studies, recently described the class status in "The Construction Review."

Some observers have asserted that the bulldozing of slums results in no net improvement in living standards. They hold that displaced families crowd back into the remaining slums. It is certainly true that the uprooting of downtown neighborhoods causes difficult social adjustments. In any neighborhood, no matter how substandard its structures, families develop strong ties with neighbors, merchants, and social institutions, as well as with religious groups. Slum clearance inevitably disrupts these ties. Unfortunately, the problems arising in the course of clearance of slums have not been adequately evaluated. On the basis of these considerations alone it is not surprising that slum clearance does not always meet with full acceptance by some community leaders. While more complete answers need to be found to the problem of social adjustment in slum clearance—and quite often the adjustments do take place in the course of time—the process of rehousing must be sufficiently advantageous, to both displacees and the community at large, to justify the dislocation problems and should anticipate them as much as possible.

The charge that large numbers of displaced families move back into other slums is hard to substantiate from the record so far. Only 7 per cent of the 76,464 families relocated from urban renewal projects as of June 30, '59, are known to have been rehoused in substandard structures. The records show that 47 per cent of the displaced families went into standard private housing (with or without help from the local redevelopment agency), and that 27 per cent were

continued on page 151



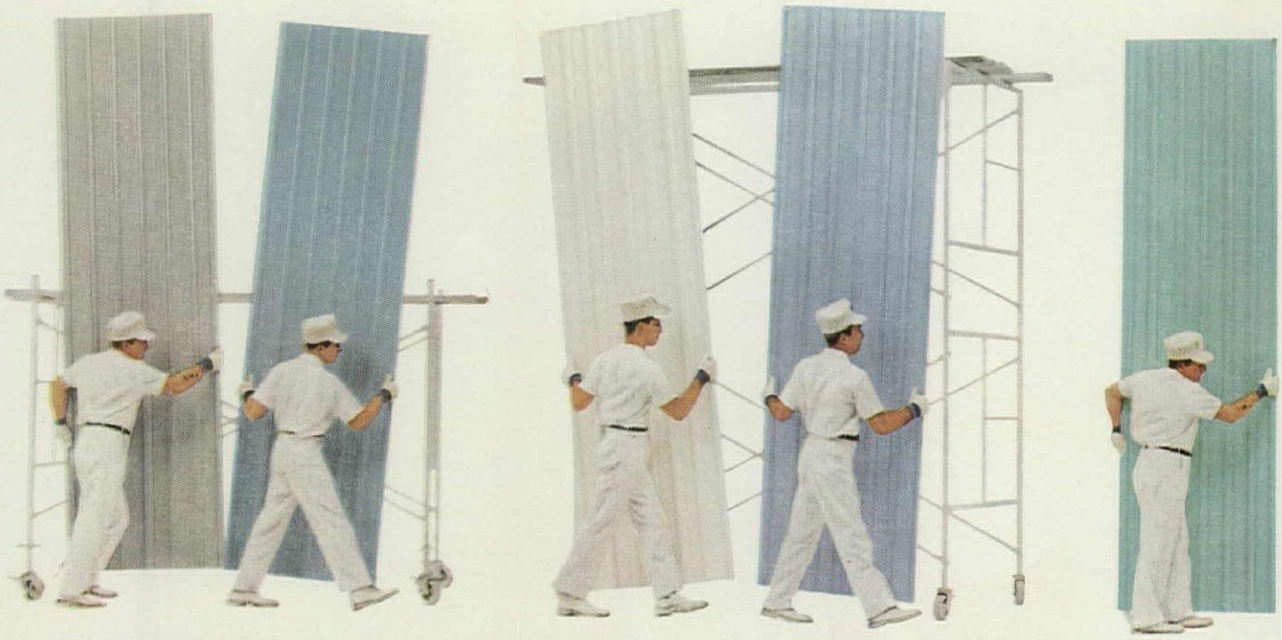
Conference room, Connecticut General Life Insurance Co., Hartford Interiors designed by the Knoll Planning Unit

An imaginative treatment of interior space by the Knoll Planning Unit. May we send further information to you on Knoll Furniture and Fabrics?

KNOLL ASSOCIATES, INC., AND KNOLL INTERNATIONAL, LTD., 575 MADISON AVE., NEW YORK 22

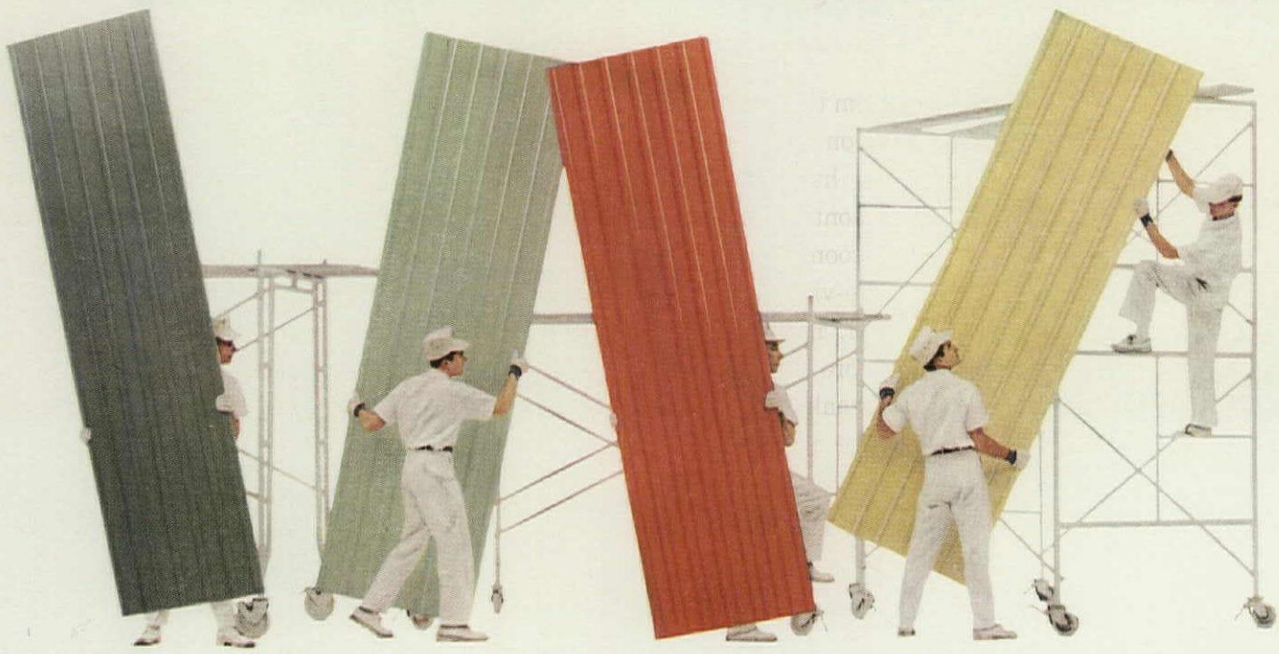
Boston, Chicago, Dallas, Detroit, Miami, New York, Philadelphia, St. Louis, San Francisco, Washington.

Skidmore, Owings and Merrill, architects Idaka photograph



NEW STRAN-STEEL PANELS CUT COLOR COSTS

Now you can execute your ideas in lasting color using low-cost, practical steel. Attractive, new Stran-Steel ribbed panels are protected with durable color coatings applied at the factory. Panel exposure is a full yard wide and as long as you want. Take your choice of nine compatible Stran-Satin colors—light blue, deep blue, light green, mist green, light grey, slate grey, orange, yellow and white. Colors that are more than skin deep—triple baked-on coatings bonded to galvanized heavy-duty steel. This color is on to stay. It won't fade, chip or peel. Stran-Steel color panels are available in 22-, 24- and 26-gauge to suit your needs—for roofing, siding, curtain walls, canopies, decorative facades as well as interior uses. For details, mail the coupon today or call the Stran-Steel architectural products dealer near you. Check the Yellow Pages under Steel.



Stran Steel®

STRAN-STEEL CORPORATION, Dept. AF-26, Detroit 29, Michigan

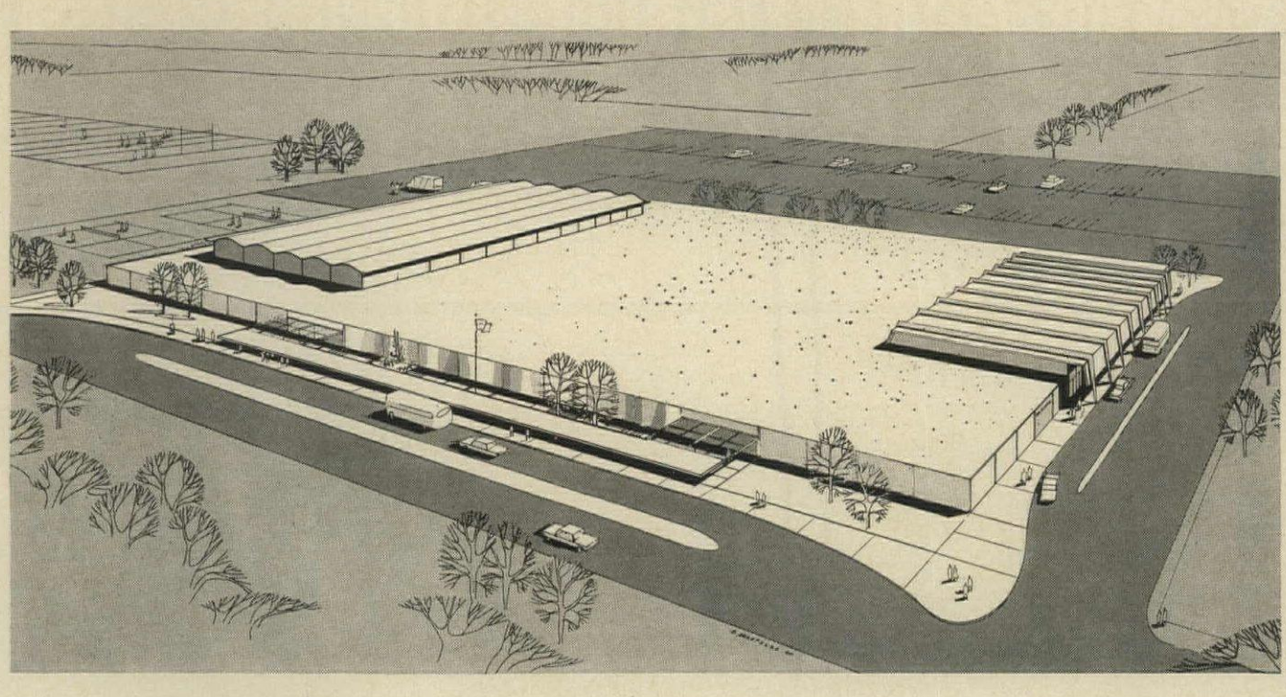
Please send complete information on the new Stran-Steel Color Panels and new Stran-Wall System.

Name_____ Title_____

Address_____ Company_____

City_____ Zone____ State_____

STRAN-STEEL IS A DIVISION OF **NATIONAL STEEL CORPORATION**



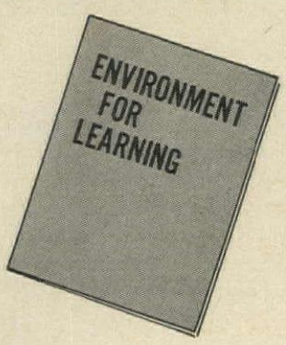
This Secondary School will give you ideas

It's a new kind of school—free from the limitations of natural light, natural ventilation and rigid site orientation because temperature, humidity, light and sound are under constant control—a school that provides flexibility of classroom space, easy conversion of any room to audio-visual activity, maximum administrative control, minimum distances between teaching units, more square feet of classroom wall space for instructional purposes and considerably more working space per site acre.

This new school actually costs less to build—and less to own and operate—yet it provides maximum educational efficiency year round and will serve more pupils than conventional schools of equal area. There is less perimeter wall, less exterior glass and shorter runs of pipe and conduit. And since classroom partitions are non-load bearing and movable, such a school is ready for any educational development—including new classroom groupings required by Core and Subject curriculums.

Write for this research study sponsored by Carrier Corporation

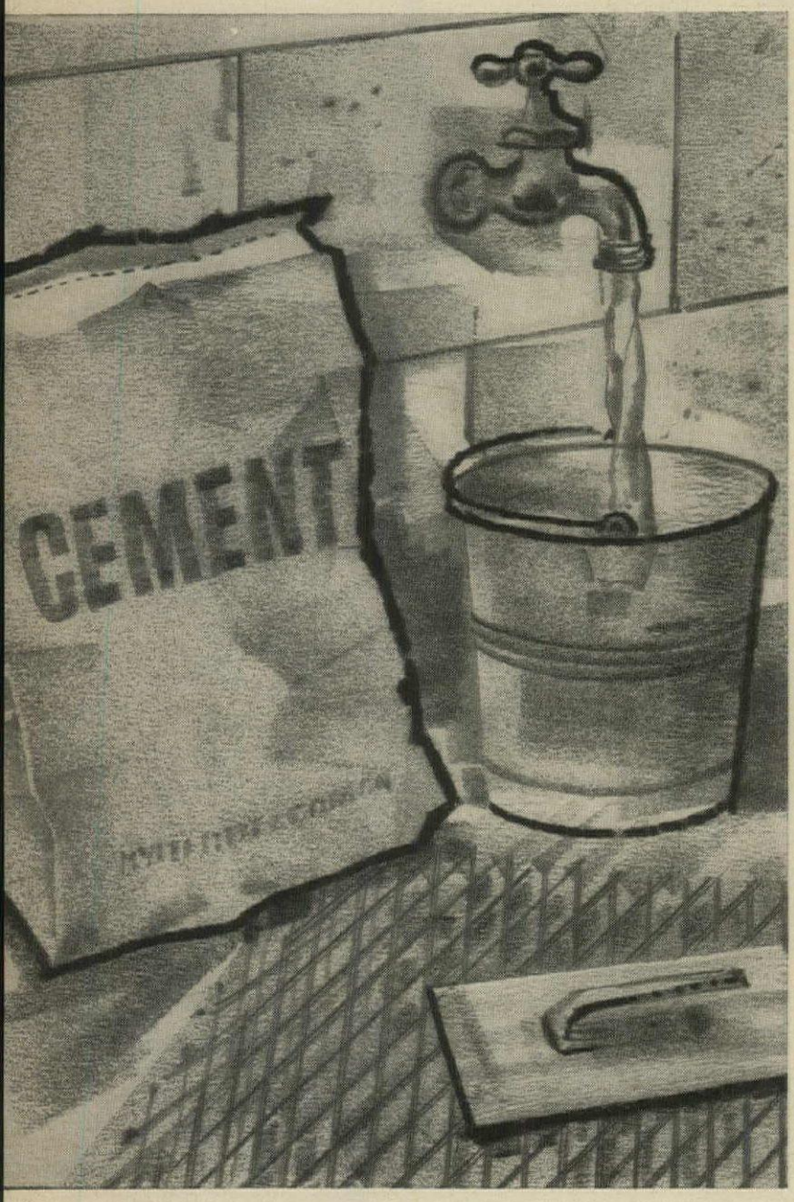
20 pages of stimulating new ideas—perspectives, plot plans, floor plans and detailed cost comparisons—yours without obligation. Carrier Corporation, Carrier Parkway, Syracuse, New York



How to reduce construction costs with

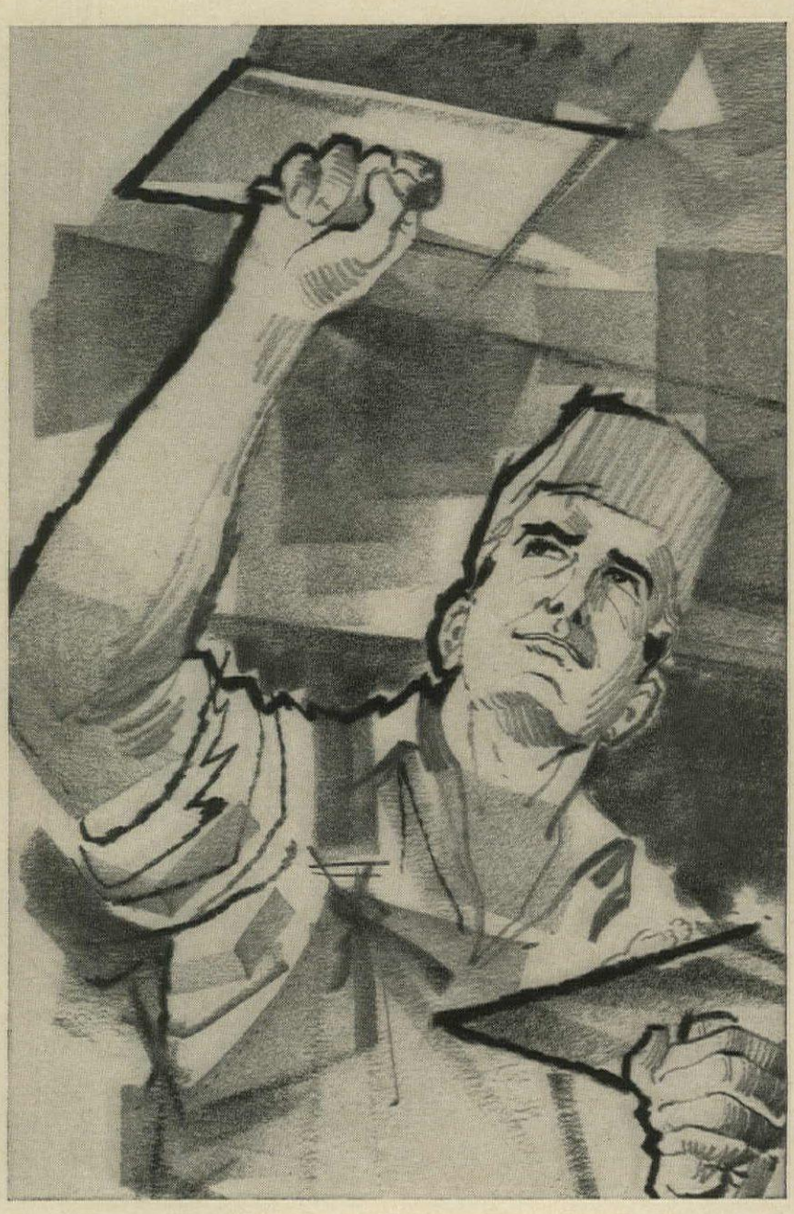
Acoustical Fire Guard, a completely different
as 30¢ per square foot — while giving Under

SAVE MONEY ON MATERIALS



Acoustical Fire Guard—the first time-design-rated acoustical tile—saves money because it eliminates the need for intermediate fire protection above the suspended tile ceiling. There is no need to pay for extra concrete, lath, plaster, or spray-on fireproofing. Building code officials from coast to coast have approved Acoustical Fire Guard for one-, two-, three-, and four-hour ratings.

SAVE LABOR COSTS

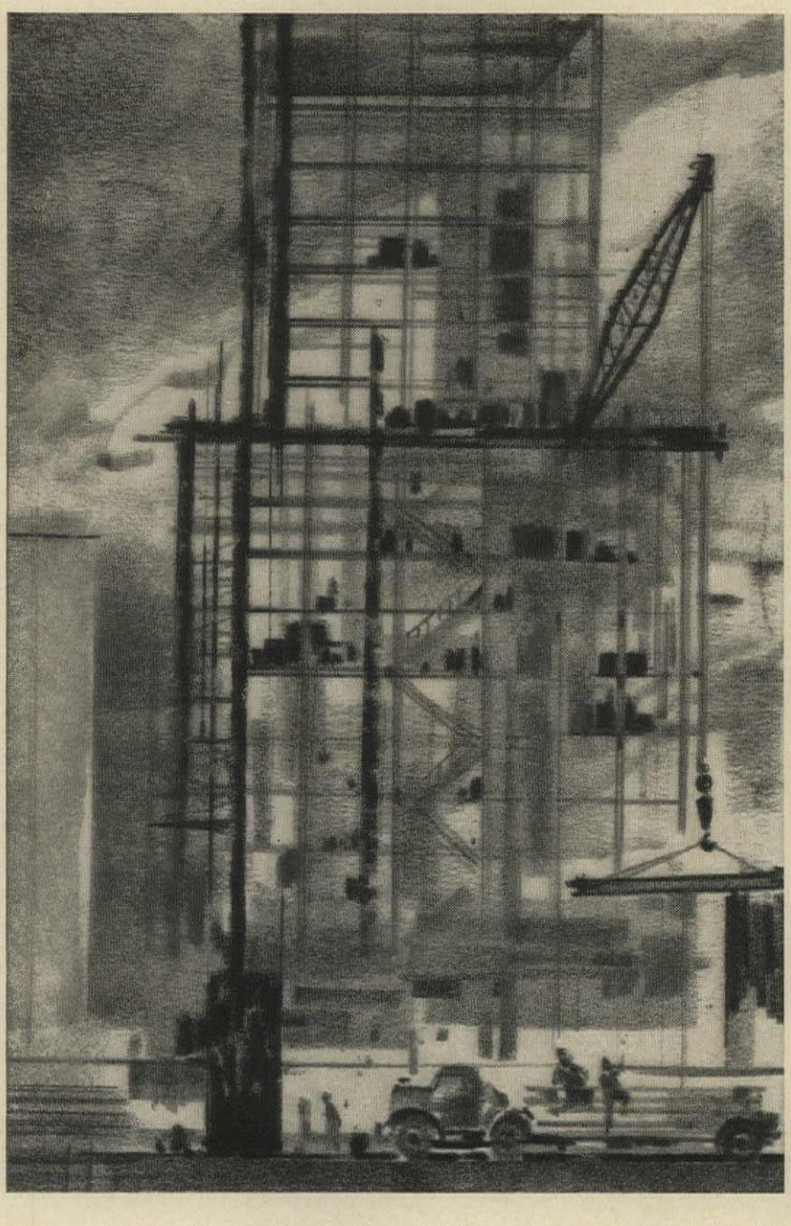


With Acoustical Fire Guard, one less building trade is needed. There is no waiting for "wet" work to dry. This can mean savings of three to six weeks. Schools open sooner. Office buildings, stores, and theaters earn revenue earlier. There are no extensive clean-up operations. You can save clients as much as 30¢ per square foot, depending on locale, building design, and type of fire protection desired.

new Armstrong Acoustical Fire Guard

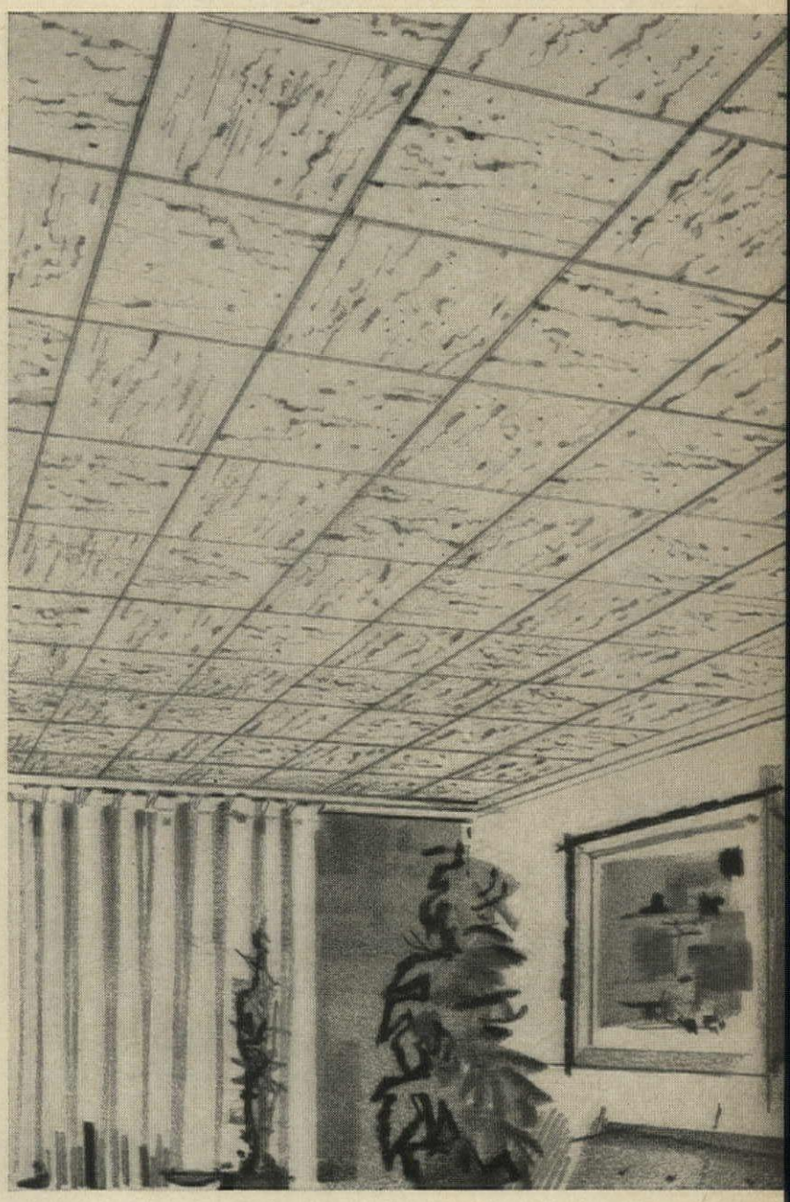
kind of ceiling, can save your clients as much
writers' Laboratories rated fire protection.

SAVE CONSTRUCTION WEIGHT



Since Armstrong Acoustical Fire Guard results in a lighter weight floor-ceiling assembly, less structural steel is required to support this than the conventional assembly. As much as 10 per cent less. In a multistory building, this can mean a considerable weight and cost saving. And this can be done without reducing the building's structural safety.

GET EXCELLENT ACOUSTICS



Acoustical Fire Guard is also an efficient noise-quieting ceiling. It has excellent sound absorption and resistance to sound transmission. Also a high light reflectance. And Armstrong Acoustical Fire Guard comes in three attractive designs—Fissured, Classic, and Full Random. To learn more about this remarkable ceiling, contact your nearest Armstrong office or Armstrong acoustical contractor or write to Armstrong Cork Company, 4207 Rooney St., Lancaster, Pa.

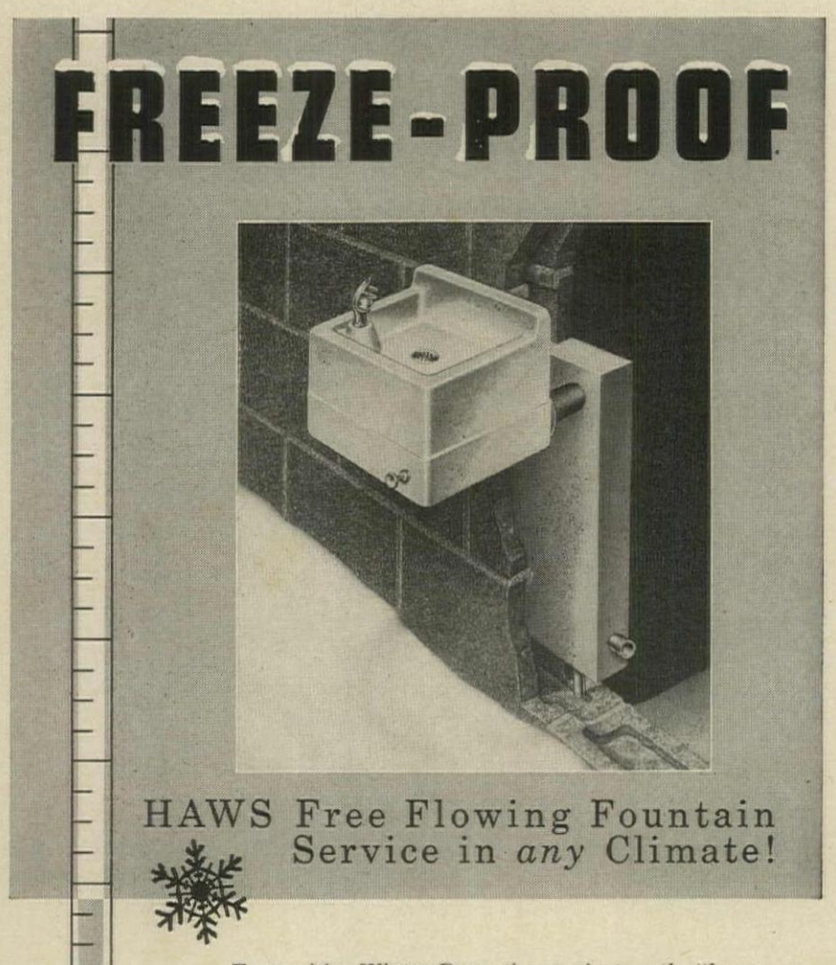
Armstrong ACOUSTICAL CEILINGS

1860-1960 Beginning our second century of progress

relocated in public housing. The remaining 19 per cent involve cases where the family moved out of the city, the condition of the unit was not yet reported or inspected, or the whereabouts of the family was unknown.

As federally assisted urban renewal programs grow and the volume of family displacement mounts, it can be expected that the problems of relocation will become more difficult. Although precise statistics are lacking, it is possible that in the future displacees resulting from the Federal Interstate Highway Program will add to the competition for available accommodations, which up to now has been caused mainly by those displaced in the urban renewal process.

It is thus becoming increasingly evident that more formal devices for improved integration of urban highway construction and urban renewal activities and for relating both to a comprehensive land-use plan for an entire urban area are desirable.



For positive Winter Protection against costly "freeze-ups" and excessive maintenance of outdoor fountains ...specify HAWS Freeze-Proof Units! Get year 'round drinking service. The choice of style is yours! Freeze-Proof Units are available with virtually any style fountain from HAWS' complete line—wall or pedestal, single or multiple bubbler. For details on model selection and installation ... see SWEETS Architectural File, or write today for catalog.

HAWS FREEZE-PROOF DRINKING FOUNTAINS

products of
HAWS DRINKING FAUCET COMPANY
1441 Fourth Street • Berkeley 10, California
Export Dept.: 19 Columbus Ave. • San Francisco 11, California

TECHNOLOGY OF THE SENSES

The director of Texas A&M's Architectural Research Division, Ben H. Evans, has investigated the surprising number of technical skills that should be applied to architecture if problems of environment are to be more perfectly solved. His findings were published in a recent issue of Texas Engineering Experiment Station's "News."

There are many physiological and psychological factors which enter into the proper design of space for human occupancy. These factors can be grouped into something like five areas: visual, sonic, thermal, spatial, and esthetic environments. Their respective importance depends upon the feelings of the particular designer involved and his client's needs.

There are many things which we do not understand about the seeing process and about how to condition our surroundings to provide the sensation we desire once we know what it is. Beside the architect whose particular duty is to bring together into a harmonious whole all of the five sensual areas, there are various engineers and consultants who understand and can communicate to us the proper methods for lighting and decorating whatever environmental atmosphere we choose to develop. But perhaps more important is the psychologist.

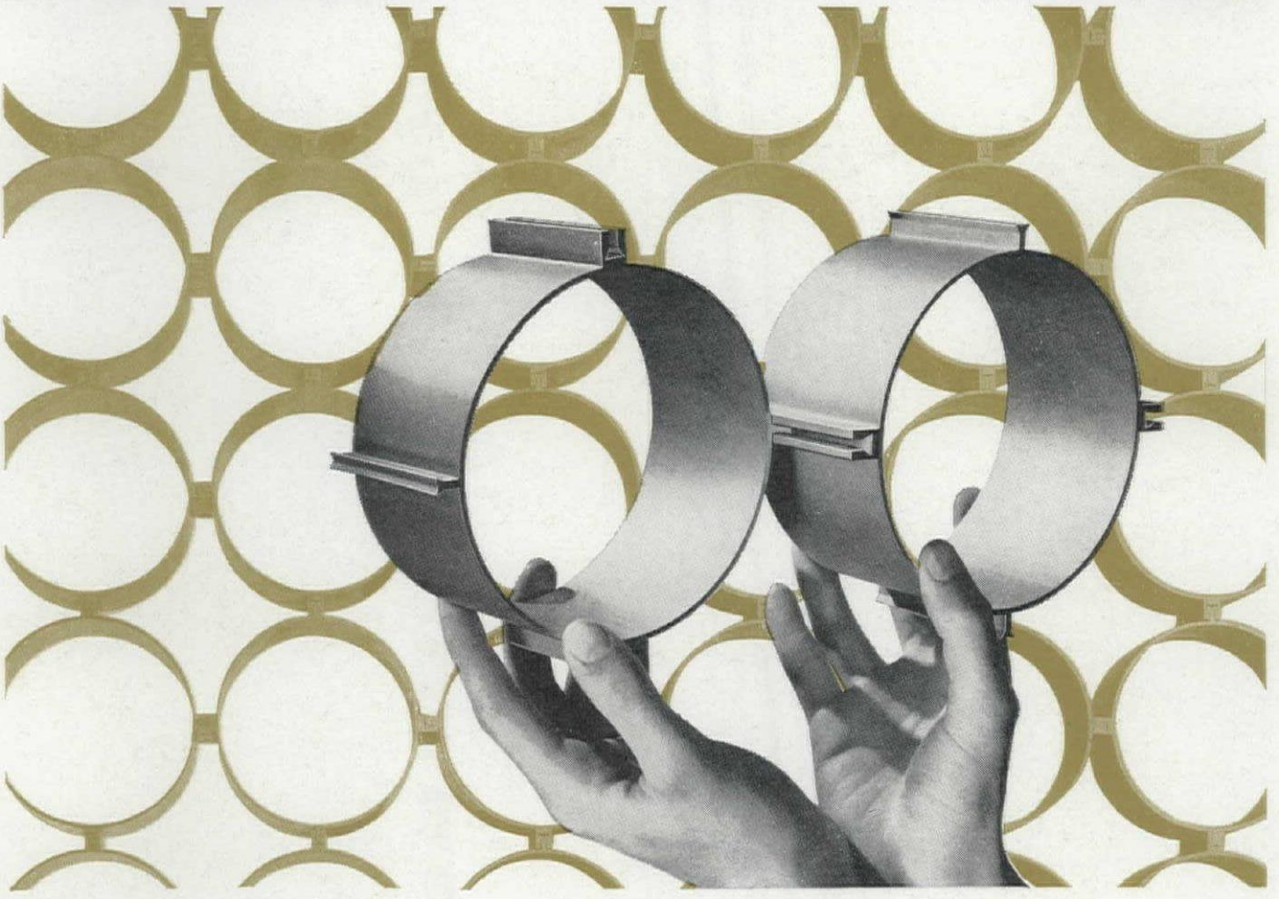
The psychologist has studied man's mental attitudes toward his environment and can point out patterns of behaviour and attitudes toward certain concepts of the visual design. Designers are sometimes shallow in their concepts, and could use psychologists and philosophers to much greater advantage.

Unfortunately, all of the facts about sound and how it reacts to various materials and structural shapes are not yet known. Even the acoustical engineer does not know all the answers. This, then, is where the physicist enters the picture. Along with the research architect, research engineer, and research analyst—all of the professional researchers—he is pursuing better sonic conditions.

Another sense that we bring into play in reacting to our environment is that of touch—or feeling. Feeling consists primarily of four "subsenses," pressure, pain, cold, and warmth. There is also the emotional feeling—that brought about by stimulation beyond the physical. Many designers are inclined to pay only token attention to the subsensations, and to concentrate on the emotions. They are wrong in believing that "any good mechanical engineer can take care of that other staff."

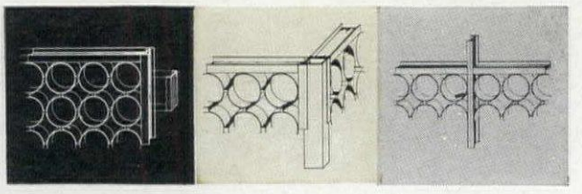
Architects, medical doctors, physiologists, landscape architects individually understand certain things about the sensual stimulations. Each has something to contribute in this area toward creating an environment that will satisfy man's needs. END

AT YOUR COMMAND...A NEW KIND OF GRILLEWORK



GRILLEWALL*...*light...lacy...elegant*

First non-modular aluminum grillework—here is a new design element of limitless application that lends classic lightness and elegance to contemporary architecture and at the same time provides cost-saving light and heat control. Grillewall features a new self-assembly concept which totally eliminates riveting, welding and all visible bolted connections. It is fully capable of stretching the entire height and width of a multi-story building without the interruption of any intermediate framing members. Grillewall's physical characteristics have been exhaustively pre-tested and full architectural details and test results are available. As a basic and versatile element in design, Grillewall produces the feeling and simplicity of custom architecture—yet is within the range of mass-production cost.



GRILLEWALL—by the originators of INFINILITE, the luminous plastic grillework of infinite dimension. Write for the new GRILLEWALL eight-page Catalog today.

GRILLEWALL*

*REGISTERED TRADEMARK—PATENTS APPLIED FOR

a product of Integrated Ceilings & Grilleworks, Inc.

INTEGRATED Ceilings & Grilleworks, Inc. AF
11766 W. Pico Blvd., Los Angeles 64, Calif.

☐ *Send new Grillewall catalog.*

☐ *I have a project on the boards—please rush information at once.*

Name_____

Firm_____

Address_____

City_____ State_____



a second look at curtainwall

If you have any preconceptions about curtainwall, they may be in for a change!

Take flexibility, for instance. Fenestra now offers standard components that can be used in a variety of steel and aluminum systems. The result: you can offer clients the design flexibility of a custom-made system at a far lower price.

Or take availability. Fenestra now offers the first, complete systems made by a single manufacturer. Windows, panels, grid frames and mullions—in aluminum or steel—are engineered, manufactured and delivered by a single source.

Or take innovations. In steel, Fenestra's new Fenmark system—already winning acceptance for its superior strength and design possibilities—has just proved itself by withstanding dramatic "destruction tests." And in aluminum, Fenestra's Fenwall system allows a wide variation of vent and panel styles without requiring special adaptors.

Or take dependability. Every Fenestra system is designed, manufactured, sealed, inspected, delivered, and erected weathertight by Fenestra.

Fenestra can accept this undivided responsibility because of its long, first-hand experience in the field. Let our local sales engineer put this experience to work for you. Call him; see Sweet's File 3a/Fe; or write: *Fenestra Incorporated, Dept. AF-07, 2296 E. Grand Blvd., Detroit 11, Mich.*



Hurricane-proof! This Fenmark steel curtainwall weathered simulated hurricane without developing a flaw!

PRODUCTS FOR THE NEW AGE IN ARCHITECTURE

Fenestra
INCORPORATED

Steel and aluminum curtainwall systems

Steel and aluminum residential windows

Engineered windows for industrial, institutional and monumental buildings

Hollow metal doors

Light gauge steel structural systems for floors, roofs, walls, and electrified floors

Trowel points to Wide Flange Rapid Control Joint, a companion product used with Dur-o-wal

Two sure ways to better block construction

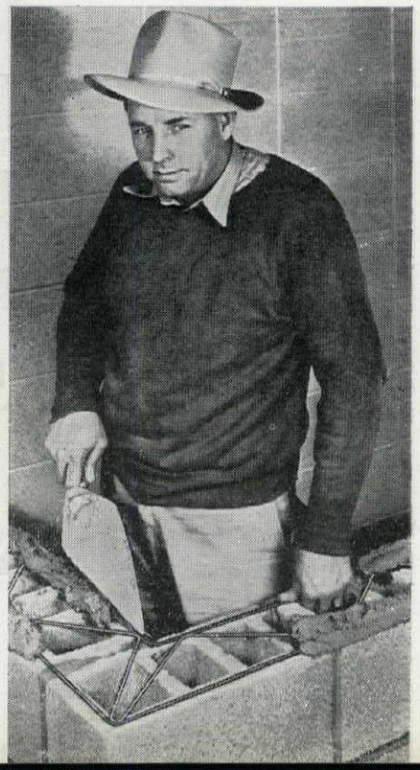
Dur-o-wal Reinforcement—Wide Flange Rapid Control Joint

More and more, architects and engineers are specifying this combination to assure permanent masonry wall construction.

Dur-o-wal Reinforcement, fabricated from high tensile steel with deformed rods, lays straight in the mortar joints with all of the steel in tension and working together as a truss. This is the basic engineering principle that makes for maximum flexural strength.

And the Rapid Control Joint, with its wide neoprene flanges, automatically assures the flexibility that lets a wall "breathe" under various natural stresses, provides a tight weather seal with minimum caulking.

For technical data, write to any of the Dur-o-wal locations below. Over 8000 dealers across the country are ready to serve you. See us in Sweet's.



DUR-O-WAL®

Masonry Wall Reinforcement and Rapid Control Joint

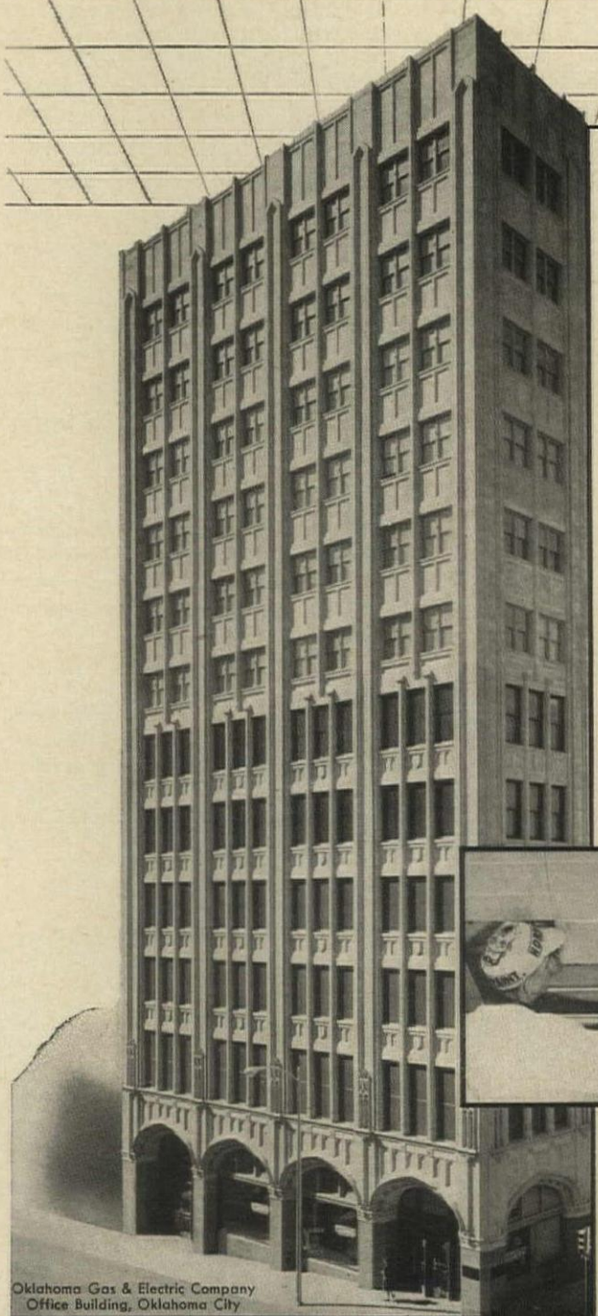
RIGID BACKBONE OF STEEL FOR EVERY MASONRY WALL

Dur-O-waL Div., Cedar Rapids Block Co., CEDAR RAPIDS, IA. Dur-O-waL Prod., Inc., Box 628, SYRACUSE, N. Y. Dur-O-waL Div., Frontier Mfg. Co., Box 49, PHOENIX, ARIZ. Dur-O-waL Prod., Inc., 4500 E. Lombard St., BALTIMORE, MD. Dur-O-waL of Ill., 119 N. River St., AURORA, ILL. Dur-O-waL Prod. of Ala., Inc., Box 5446, BIRMINGHAM, ALA. Dur-O-waL of Colorado, 29th and Court St., PUEBLO, COLO. Dur-O-waL Inc., 165 Utah Street, TOLEDO, OHIO

HEAT and COOL from ABOVE

—WITH OVERALL SIMPLICITY

(Highest Acoustical Efficiency, Too!)



Oklahoma Gas & Electric Company Office Building, Oklahoma City

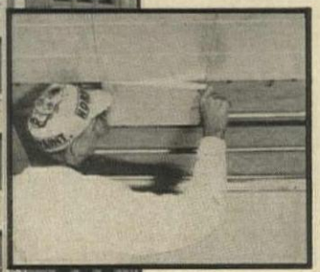
The superior advantages of the radiant principle as a means of creating comfortable office environments are best demonstrated in the six floor superimposed addition to the general office building of the Oklahoma Gas & Electric Company at Oklahoma City. Over 8,550 square feet of space on the upper six floors have been equipped with the Burgess-Manning Radiant Acoustical Ceiling. The lower six floors are still heated by a conventional heating system.

The use of radiant heating and cooling, combined with definite noise control, offers not only employee comfort, but increased efficiency and overall operating economy.

With radiant energy to heat offices, room temperatures are more uniform, with no drafts. More building space is utilized than with conventional heating systems —no radiators, convectors, registers, etc. occupy usable space.

The Burgess-Manning Radiant Acoustical Ceiling provides heating and cooling with a minimum input of energy or fuel consumption. With fewer mechanized parts, maintenance of the ceiling is greatly reduced.

There is definite proof that no other heating system offers so many distinct advantages in comfort, in efficiency, in economy.



Write for the descriptive Burgess-Manning Catalog No. 138-2 . . . and the complete story of Burgess-Manning Radiant Acoustical Ceiling for office building use. No obligation.

3 Heating Cooling Acoustical

BURGESS-MANNING COMPANY

Architectural Products Division

709 East Park Avenue, Libertyville, Ill.

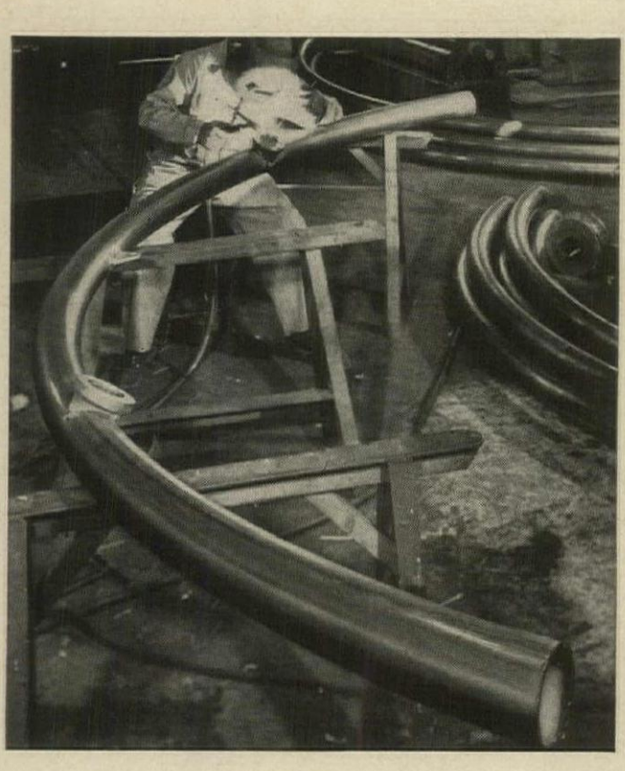
THE BURGESS-MANNING 3-WAY FUNCTIONAL CEILING

STAINLESS STEEL AND VISION-VENT®

SELECTED FOR MEXICAN BANK BUILDING

Officially dedicated in November of 1959, the new "Edificio Banco Popular" (Popular Bank Building), Monterrey, Mexico, embodies the concepts and materials of advanced architecture.

Architects used Republic ENDURO® Stainless Steel for vertical mullions, coping, sill facias, and panels. This ensured the *long-range* economies of strength, corrosion-resistance, ease of cleaning, and a lustrous beauty that will never fade from sun or weather.

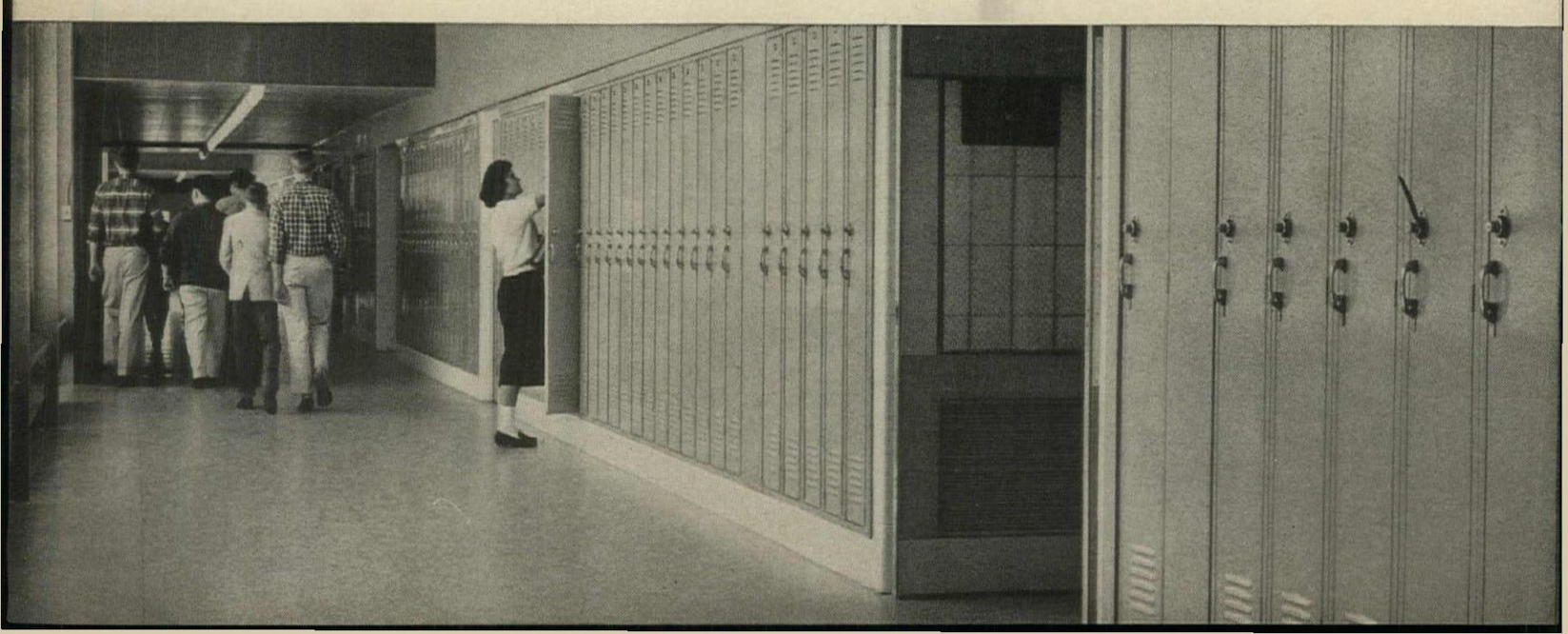


Architects also utilized Republic's Truscon VISION-VENT Window-Wall System. Thus were realized the *immediate* economies of mass-production, fast erection, design flexibility, and 5% gain in usable floor space (made possible by insulated panels less than 1½″ thick).

For information on Republic Stainless Steel for architectural applications and on Republic's Truscon VISION-VENT Window Wall System, call your Republic representative or return the coupon.

ELECTRUNITE® *STAINLESS STEEL* TUBING—Republic Stainless Steel Tubing and Pipe are ideal for troublesome corrosion applications. Available in a full range of sizes and wall thicknesses. Republic—the world's largest producer of alloy and stainless steels—offers complete technical service. Return the coupon for information.

ARCHITECTS SPECIFY REPUBLIC LOCKERS—Because they like them. They're Bonderized! Architects like—the quality look and feel—the quiet operation—the baked enamel finish in three popular standard colors—the positive, automatic locking—the double leaf pin hinges—the tamper-proof latching that assures minimum maintenance. Mail coupon for details.





EDIFICIO BANCO POPULAR, Monterrey, Mexico. Architects: Mario Pani, Salvador Ortega Flores, and Ramon Lamadrid R. Designers: Armando Cardenas and Dr. Emilio Rosenblueth. General Contractor: Constructora Popular, S.A.

REPUBLIC STEEL

World's Widest Range
of Standard Steels and Steel Products

REPUBLIC STEEL CORPORATION
DEPT. AF-9655
1441 REPUBLIC BUILDING • CLEVELAND 1, OHIO

Please send more information on:

- ☐ Stainless Steel for architecture
- ☐ VISION-VENT Window-Walls
- ☐ Stainless Steel Tubing and Pipe
- ☐ Republic Lockers

Name_____ Title_____

Company_____

Address_____

City_____ Zone____ State_____

SOLIDLY IN PLACE



RIXSON® UNI·CHECK DOOR CLOSERS

Best suited — best situated for controlling single-acting interior doors.

Completely out-of-the-way and out-of sight, Uni-checks make their presence known only by the consistent, gentle but firm way they *close* doors . . . or *hold* them open at a full 180° plus any one of five other specified positions—85°, 90°, 100°, 110°, or 120°.

For *double acting* light interior doors, RIXSON DUO-CHECKS offer the same advantages of rigid floor installation and complete concealment, and are available with or without 90° hold-open.

4 spring capacities offer a choice of the right closer mechanism for the specific door weight and size, and to accommodate for unusual draft conditions.

pivotal hanging style puts the entire weight of the door on the closer spindle; places jamb screws at right angles to door opening leverage so that door is not apt to pull away from jamb.

for fire doors Uni-checks without hold-open are UL approved when equipped with special BB primed iron top pivot. Also UL approved when equipped with primed iron top pivot and No. 36 Fusible Link hold-open arm to hold door open at choice of 85°, 90°, 95°, 100° or 105°.

THE OSCAR C. RIXSON COMPANY
9100 w. belmont avenue • franklin park, illinois
CANADIAN PLANT: 43 racine rd. (rexdale p. o.) toronto, canada

write for complete information and template details

QUESTIONS ARCHITECTS MOST FREQUENTLY ASK ABOUT ALCOA ALUMINUM FINISHES:

"WHAT IS MEANT BY 'ALUMILITE TREATMENT'?"
Alumilite* treatment is Alcoa's trade name for anodizing under a specific set of conditions. It's an electrochemical means of achieving a protective and decorative oxide coating.

"WHAT IS MEANT BY 'ARCHITECTURAL COLOR FINISHES'?"
The Alcoa Architectural Colors have a heavy oxide coating as a result of an electrochemical process. These heavy oxide coatings have extremely high resistance to atmospheric weathering for use on exterior, unmaintained surfaces such as curtain walls. The Alcoa combination of special alloys, controlled procedures and selected licensed applicators provides for the best possible color match and quality control.

"WHAT IS THE 'DURANODIC' LINE OF FINISHES?"
The Duranodic* line is a new line of architectural finishes also achieved by an electrochemical process. It's designed specifically for use on standard 6061 and 6063 extrusions, 5005 sheet, and No. 32 Alumilite sheet products. These extremely durable oxide coatings vary from a light brownish gray to a dark, almost black, color and are satisfactory for architectural applications on exterior, unmaintained surfaces.

"WHAT DOES 'ALUMALURE' FINISH MEAN?"
It is another relatively new line of color finishes for Alcoa products. This particular finish is a high-quality, baked synthetic resin enamel applied to a chemically prepared surface. Alumalure® finishes come in 11 beautiful colors, and the over-all system combines beauty and durability at low cost.

"IS PORCELAIN ENAMEL ON ALUMINUM STILL AN IMPORTANT ARCHITECTURAL FINISH?"
Absolutely! It is, and will continue to be, one of the most important ways to achieve color on aluminum. The porcelain enamel system on aluminum has high resistance to mechanical damage. As a matter of fact, field sawing and drilling to facilitate job-site erection are wholly practical since raw edges present no staining problem. Porcelain enamel on aluminum combines a complete range of colors and textures with excellent durability, provided that recommended surface treatments and alloy selections are utilized. Alcoa has developed special preparatory treatments and alloys for this application.

"CAN YOU EXPLAIN 'ANODIZING' IN A FEW WORDS?"
Aluminum has a natural affinity for oxygen. Leave aluminum outdoors and a protective, transparent film of aluminum oxide will form on the surface. Anodizing (Alumilite treatment) is a process of forming heavier oxide coatings by utilizing electric current and an acid solution to convert the surface to aluminum oxide.

"HOW IS COLOR ACHIEVED BY ANODIZING?"
By the same anodizing process, except that the aluminum is introduced into a coloring solution after anodizing. This is done just prior to the last step, which is a sealing operation. The oxide coating absorbs the color and the sealing locks it in.

"DOES THE ALLOY HAVE ANY EFFECT ON COLOR?"
An anodic coating on pure aluminum is clear and transparent. But commercial aluminum has alloying elements which remain in the anodic coating, imparting a color to the otherwise transparent coating. Certain alloying elements have characteristic colors; therefore, this principle is used to produce colored anodic coatings by utilizing different alloy combinations. The handsome gray finishes used in major buildings around the country, for instance, obtained their color from particles of silicon suspended in the aluminum oxide coating. Soon there will be alloys that, when anodized, produce new colors including gold.

"ARE THESE OXIDE COATINGS LONG LASTING?"
Long lasting, durable and protective, as well! They've been successfully tested for years. In fact, the only new concept is in providing colors capable of withstanding the ultraviolet light of the sun. Existing Alcoa Architectural Colors are amazingly good for exterior use—and the immediate future should bring many new colors to the market. Unlimited color is already available for interior application.

"WHAT ABOUT TEXTURE?"
Texture means many things; however, the simplest explanation is a change in the contour of the surface to produce a visual effect. This may be accomplished by a wide variety of techniques ranging from satin finish, produced by steel wool, caustic etching, belt polishing, etc., to a highly lustrous surface produced by buffing. The point to remember is that anodizing reproduces the surface from which it's formed, meaning texture desired should be applied prior to anodizing. Such texture detail is not lost, but is enhanced by the anodizing process.

"WHAT DOES ALUMALURE FINISH OFFER ME?"
This relatively inexpensive color process offers a wide choice of colors. Five of these Alumalure hues contain aluminum pigment, for a metallic appearance. The results of prolonged atmospheric exposure tests have proven the excellent weatherability of this special finish. Alumalure finish on Alcoa® Sheet is proving to be especially suitable for shopping centers, schools, industrial buildings and light commercial applications.

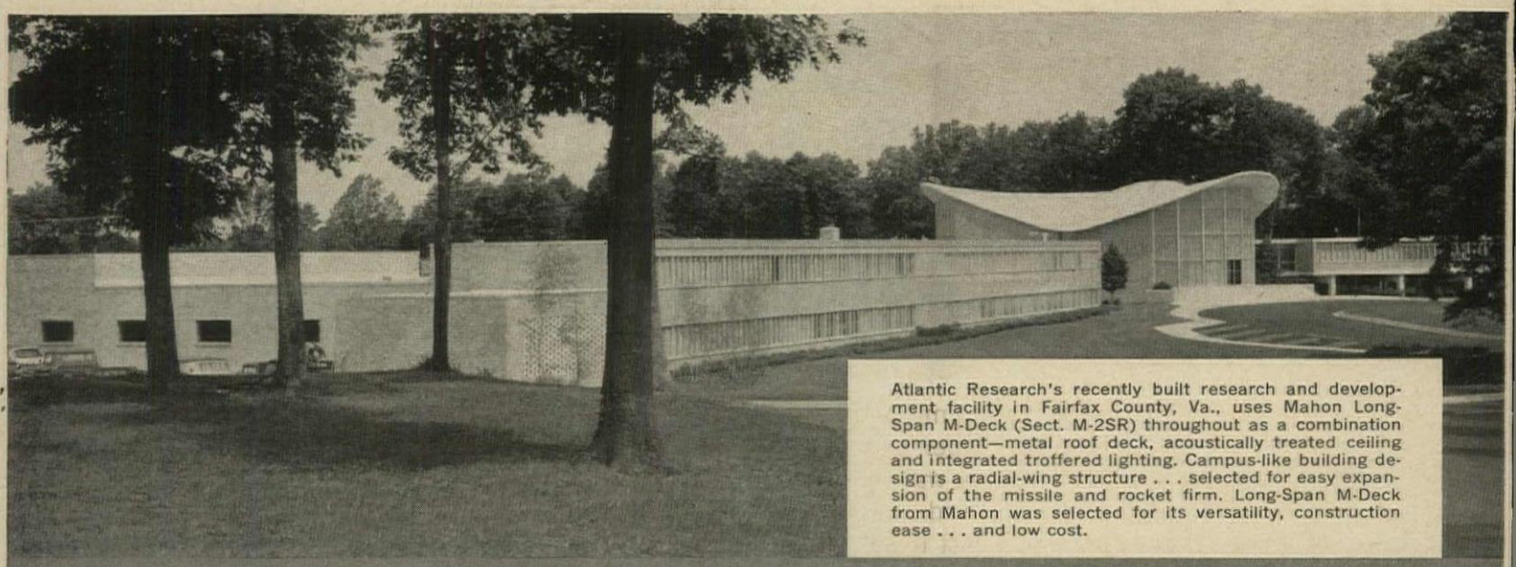
"THEN—IS THE TREND TOWARD COLOR ON METAL-CLAD BUILDINGS CONTINUING?"
A recent AIA survey indicates that 90 per cent of architects want color! Experts all say that the trend will continue. Alcoa has always been interested in—and has a continuing research and development program on—color.

"HOW CAN I GET MORE INFORMATION ON COLOR AND ALUMINUM?"
This is easiest of all! Just contact your nearest Alcoa sales office. Or drop a line to: Aluminum Company of America, 1822-G Alcoa Building, Pittsburgh 19, Pa.

*Trade Names of Aluminum Company of America

ALCOA ALUMINUM
FINISHES

For exciting drama watch "Alcoa Presents" every Tuesday, ABC-TV, and "Alcoa Theatre" alternate Mondays, NBC-TV

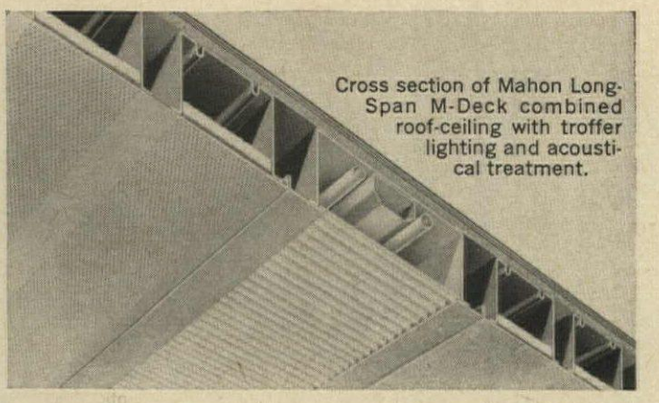


Atlantic Research's recently built research and development facility in Fairfax County, Va., uses Mahon Long-Span M-Deck (Sect. M-2SR) throughout as a combination component—metal roof deck, acoustically treated ceiling and integrated troffered lighting. Campus-like building design is a radial-wing structure . . . selected for easy expansion of the missile and rocket firm. Long-Span M-Deck from Mahon was selected for its versatility, construction ease . . . and low cost.

MAHON MULTI-USE LONG-SPAN M-DECKS

Interior view of one of Atlantic Research's engineering sections showing ceiling side of Mahon Long-Span M-Deck —attractive, functional and noise proofed. Troffer lighting M-Deck sections harmonize with surroundings—provide diffused, glare-free illumination.





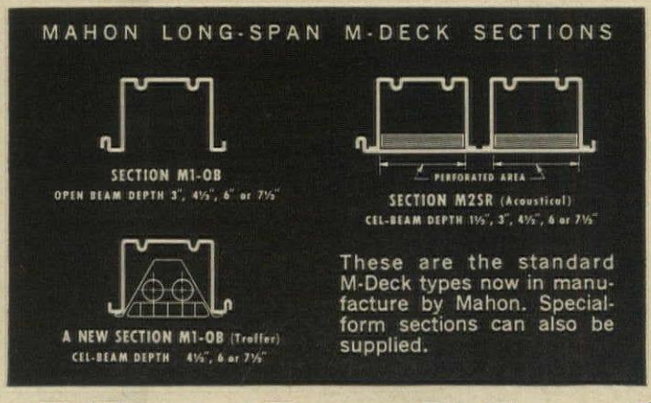
Cross section of Mahon Long-Span M-Deck combined roof-ceiling with troffer lighting and acoustical treatment.

Today, more than ever, architects and engineers are depending on Mahon Long-Span M-Decks as proven, multi-purpose roof sections that provide a combined structural roof deck and ceiling. Now, for less cost than once required for conventional steel roof systems, you can also specify functional ceilings that fit into almost any job.

short-cuts to quality construction —long strides toward cost reduction

These steel sections give you more design and construction advantages . . . (1) adaptability: serving as structural members, roof decks, finished ceiling material—even acoustical treatment; (2) efficiency: high strength-to-weight ratio permits spans from wall-to-wall or truss-to-truss . . . roof beams and purlins can be eliminated; (3) economy: easy handling, fast erection, rapid covering—saving time, labor and material; and (4) flexibility: producing either flat or beamed ceiling surfaces with or without recessed troffer lighting or acoustical treatment, in metal gages and gage combinations to suit your need.

Find out what quality-made Mahon Long-Span M-Decks can do for you . . . your work . . . your costs by talking with your local Mahon architectural representative, consult Sweet's Files or write for information Catalog LSD-60.



MAHON BUILDING PRODUCTS

- Aluminum or Steel Curtain Walls (in natural or colored metals)
- Rolling Steel Doors (Standard or Underwriters' labeled)
- Metalclad Fire Walls (Underwriters' rated)
- M-Floors (Steel Cellular Sub-Floors)
- Long Span M-Deck (Cellular or Open Beam)
- Steel Roof Deck
- Acoustical and Troffer Forms
- Acoustical Metal Walls, Partitions and Roof Decks
- Permanent Concrete Floor Forms

CONSTRUCTION SERVICES

- Structural Steel-Fabrication and Erection
- Steel Fabrication-Weldments

THE R. C. MAHON COMPANY

Detroit 34, Michigan

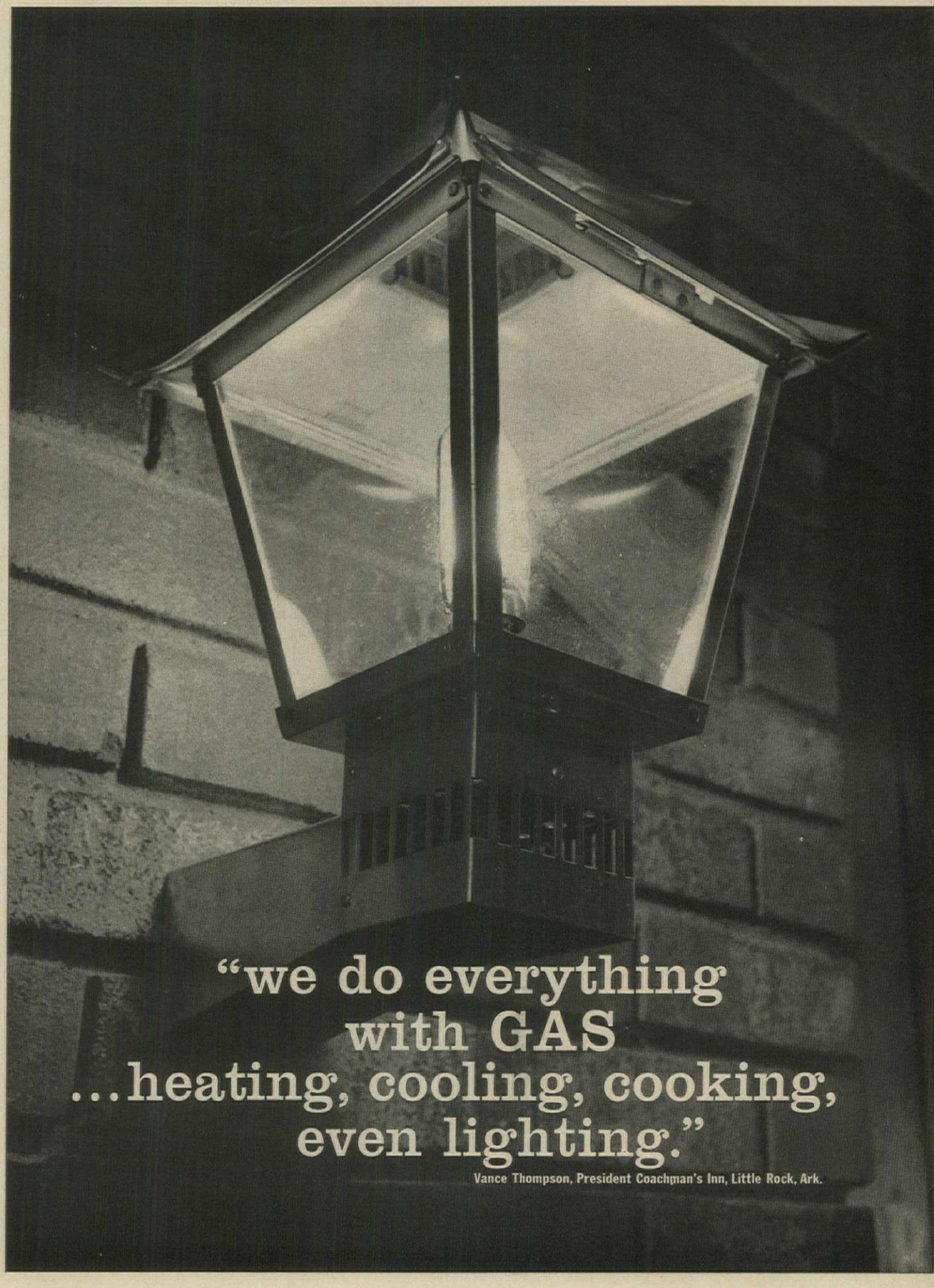
Manufacturing Plants—Detroit, Michigan and Los Angeles, California

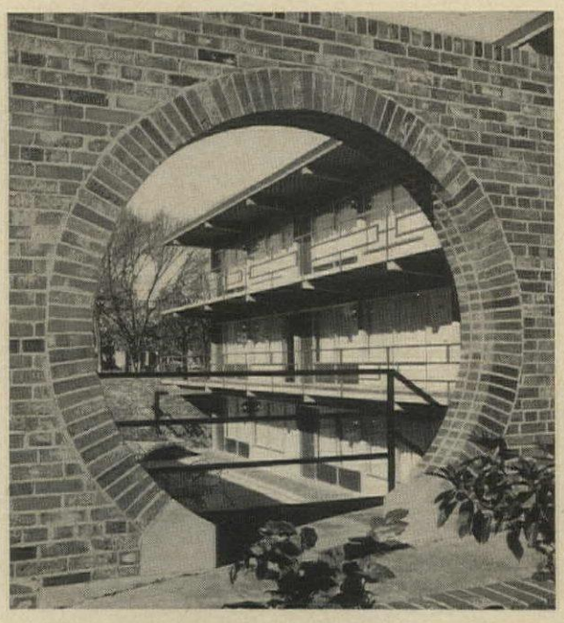
Sales-Engineering Offices in Detroit, New York, Chicago, Los Angeles and San Francisco.

Representatives in all principal cities.

SPEEDING AMERICAN CONSTRUCTION WITH METAL BUILDING PRODUCTS, FABRICATED EQUIPMENT AND ERECTION SERVICES

MAHON


"we do everything
with GAS
...heating, cooling, cooking,
even lighting."
Vance Thompson, President Coachman's Inn, Little Rock, Ark.



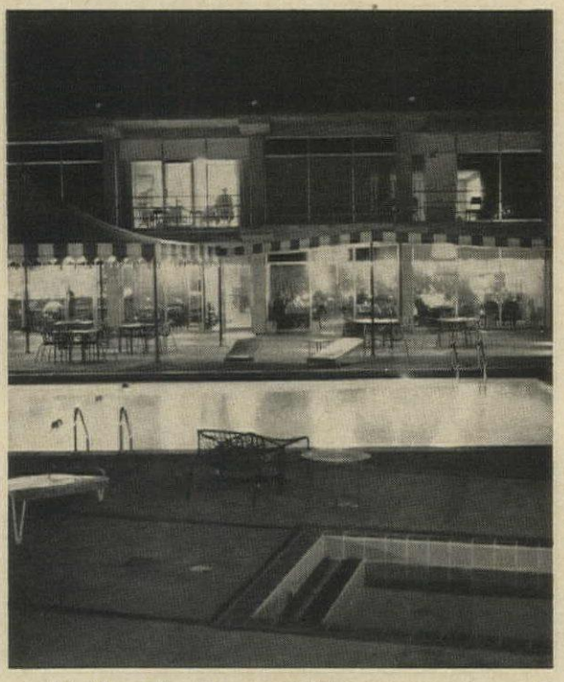
The new Coachman's Inn . . . a 258-unit motel in downtown Little Rock . . . is the last word in ultramodern convenience and comfort. In the words of satisfied guests, it has everything.

And everything there that depends on fuel depends on GAS, the most flexible modern fuel. Even the electricity used at the Inn is produced by a gas-driven generator!

Six 25-ton Arkla-Servel Gas absorption units provide summer air conditioning. The source of energy for the chiller units is low pressure steam from a gas-fired boiler. The same boiler furnishes heat in winter.



Guests and management alike appreciate the automatic convenience of the Arkla-Servel gas absorption cooling system. The chillers shut themselves down, one by one, as the load decreases. And, since cooling requirements seldom exceed 80% of capacity, one unit can be shut down if necessary without affecting cooling efficiency.



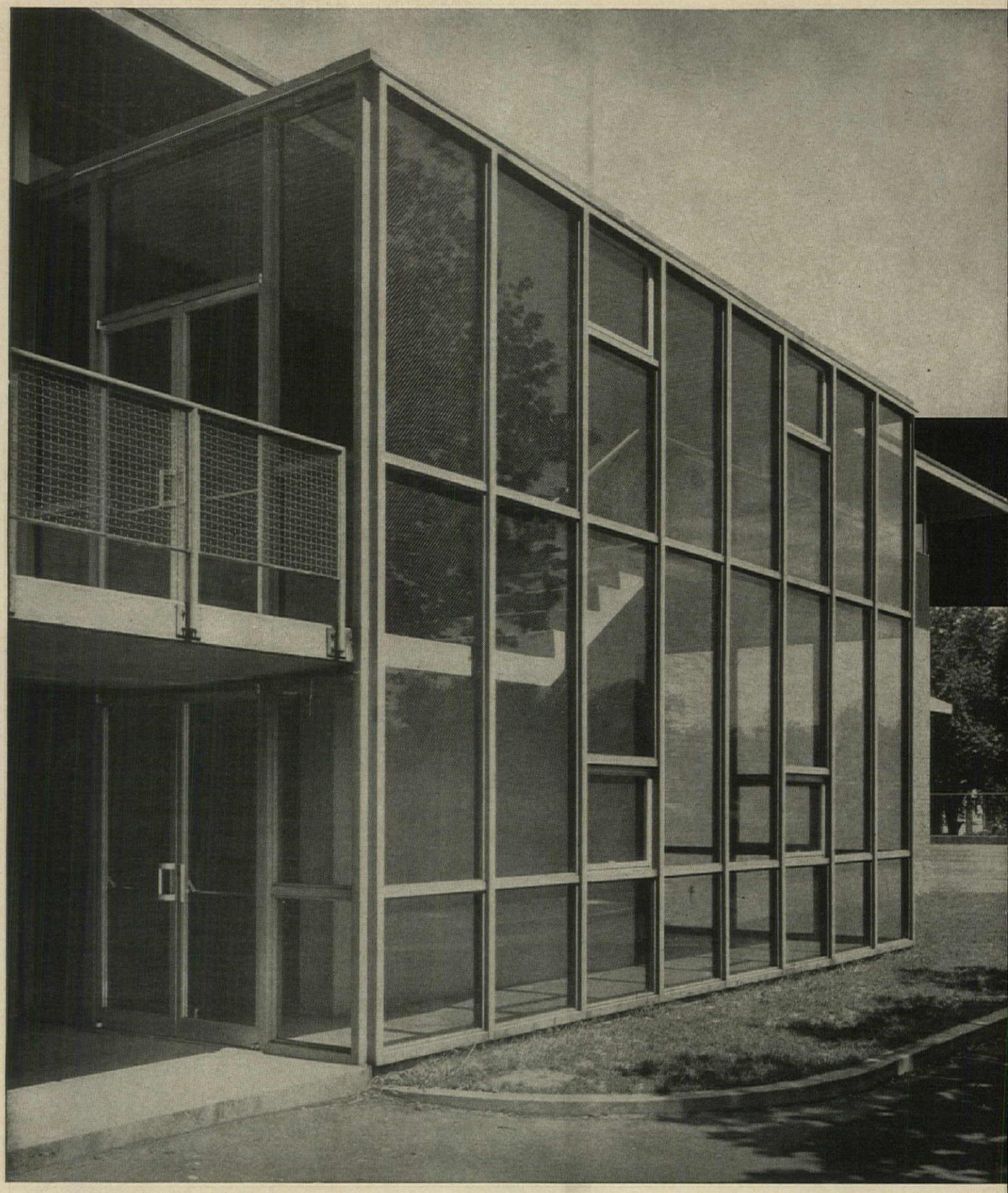
At the Coachman's Inn, year 'round air conditioning is only part of the job for gas. Gas cooks the meals. Heats all water, including the pool. Illuminates the decorative Arkla Gaslites. And, in gas flambeaux, adds a dramatic touch to the beautiful Sunken Patio.

Before you layout your next job, check the all-round efficiency and economy of gas. Remember, gas absorption cooling can put your customers' heating plants on a year 'round paying basis.

For specific details on Arkla-Servel systems, call your local gas company, or write to the Arkla Air Conditioning Corporation, General Sales Office, 812 Main Street, Little Rock, Arkansas.

AMERICAN GAS ASSOCIATION

FOR HEATING, COOLING, COOKING
...GAS IS GOOD BUSINESS



Stairwell of Polished Misco Wire Glass contributes to overall appearance as well as safety in the Fort Saunders Elementary School, Knoxville, Tenn.
Architect—Painter, Weeks & McCarty, Knoxville, Tenn.



For details, see your nearby distributor of quality glass or write for latest catalog. Address Department 6.

SEE OUR CATALOG IN SWEET'S

OR WRITE FOR COPY

WORLD'S LARGES

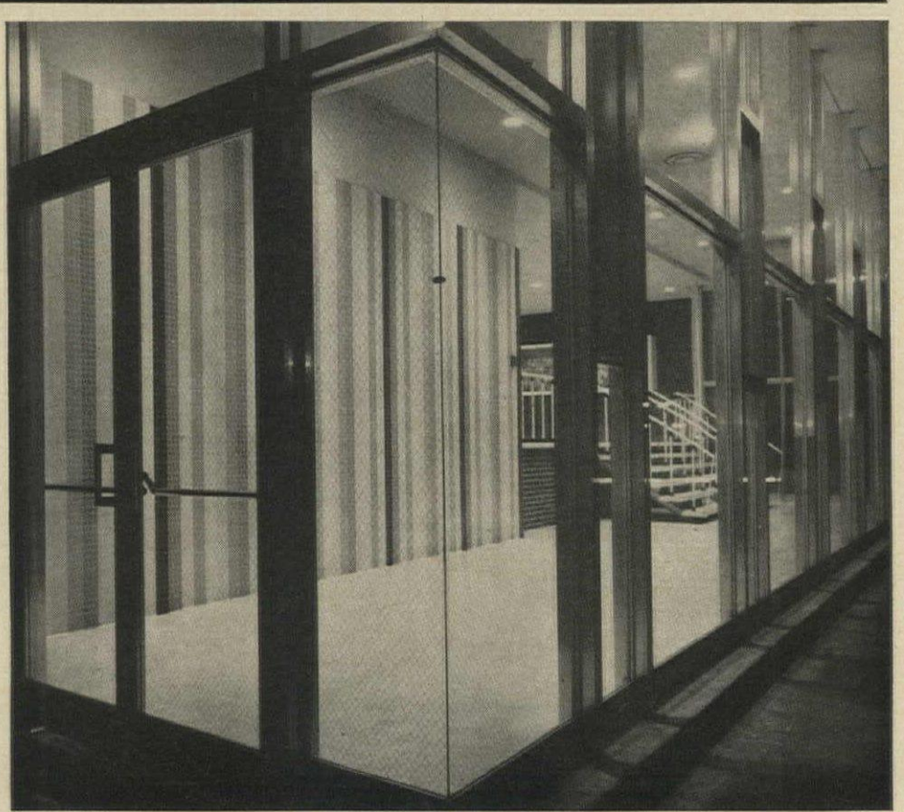


Impact and fire resistance are twin features of this Polished Misco Wire Glass installation in Tennessee School for the Deaf, Knoxville, Tenn. *Architect*—Painter, Weeks & McCarty, Knoxville, Tenn.

MISSISSIPPI GLASS...

LEADS THE WAY IN *Daylighting* WITH SAFETY

Combining beauty, utility, and economy, Mississippi leads the way by making available an extensive selection of translucent glass patterns that do wonderful things with daylight. In addition, rugged Mississippi Wire Glass, whether for obscurity or clear vision, affords effective but inconspicuous fire protection while enhancing the appearance of any structure . . . when installed in partitions, skylights, stairwells, windows, doors, or wherever else fire and breakage protection is required. The versatility of Mississippi glass provides architects and engineers with a practical solution to virtually every daylighting problem, including safety with decoration, with heat absorption and with light diffusion and direction.



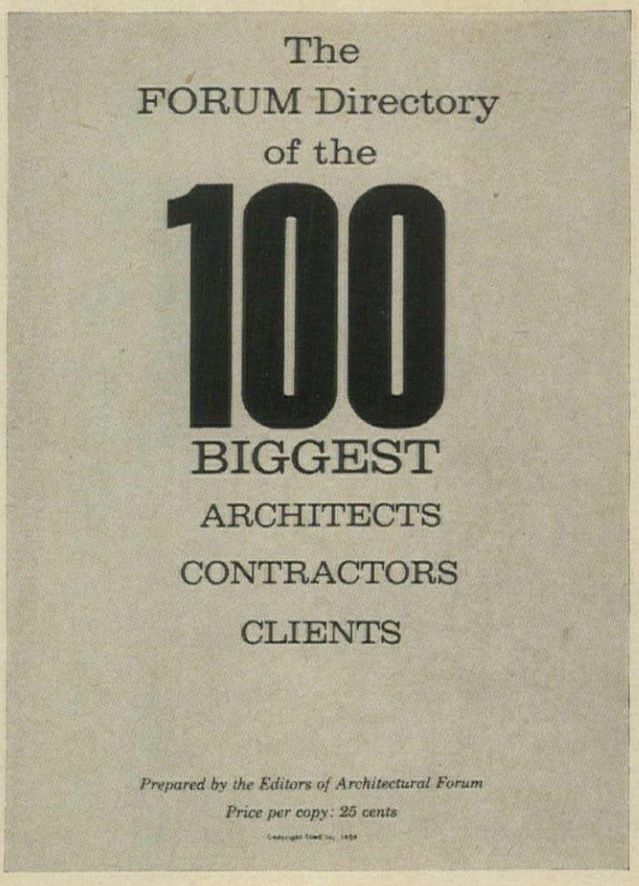
Polished Misco Wire Glass glazed in main entrance of Hellertown High School, Hellertown, Pa. *Architect*—Heyl, Bond & Miller, Allentown, Pa. *Contractor*—Gottlieb-Schneider, Bethlehem, Pa. *Glazing Contractor*—Penn Allen Glass Company, Allentown, Pa.

MISSISSIPPI GLASS COMPANY

NEW YORK • CHICAGO • FULLERTON, CALIFORNIA

88 Angelica Street • St. Louis 7, Missouri

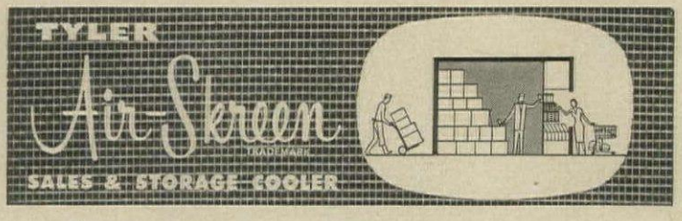
MANUFACTURER OF ROLLED, FIGURED AND WIRED GLASS



ARCHITECTURAL FORUM's guide to Building's Biggest, the latest Directory of 100 largest Architectural Firms – Building Customers – Building Contractors is now ready. Only 25¢ per copy prepaid. Order from **ARCHITECTURAL FORUM,** Room 1937B, Rockefeller Center, New York 20.

Air-Skreen sparks new ideas in SUPERMARKET PLANNING

Air-Skreen is an all-new integrated display and storage merchandiser which saves steps, reduces product handling, cuts labor costs; by providing fast, easy rear-loading of display from within storage cooler itself. It can be used in separate, single units—or in multiple, continuous display. For details consult Tyler Distributor listed in Yellow Pages, or send coupon.



TYLER

PIONEER of important improvements

TYLER REFRIGERATION CORPORATION, Niles, Michigan

See our catalog in Sweet's Architectural File—26a/Ty

Tyler Refrigeration Corporation, Dept. AF-7 Niles, Mich.
Send data on ☐ new Tyler Air-Skreen Sales & Storage Cooler ☐ free Store Planning Assistance available to architects.

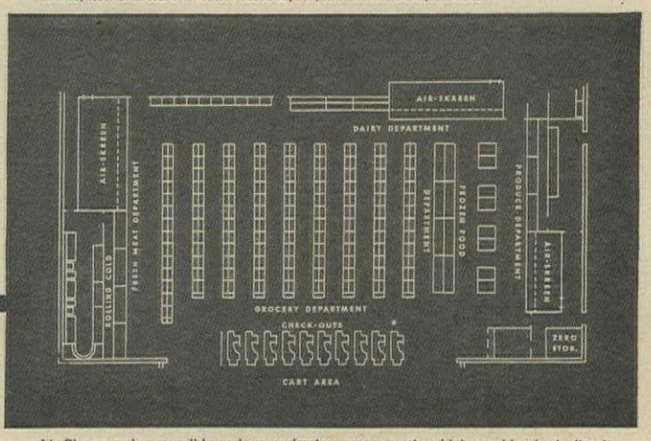
NAME_____

ADDRESS_____

Canada: Tyler Refrigerators, 732 Spadina Ave., Toronto. Export: Tyler Refrigeration Int'l., C.A., Apartado Postal 9262, Caracas, Venezuela, S.A.



Every store has its own requirements, but Air-Skreen opens new solutions, new arrangements, new shortcuts to better store layout, more efficient operation.



Air-Skreen makes possible various perimeter arrangements which provide short, direct flow of merchandise from receiving to combination sales and storage cooler.

continued from page 87

grace and lyricism which typically marks the mature phase of an art—e.g., Hellenistic.

Kahn's temperament plays a decisive role here—and this temperament lies rather closer to the Old Testament Prophets than to the Puritan poet, John Milton. He has old-fashioned ideas about the worth and permanence of architecture. He thinks it should be built to last, if not for ages, at least for a long time, and he argues that it is immoral to think otherwise. Of course, he knows that, to survive, architecture must have the capacity of adaptation to the needs of later generations ("my client's grandsons," as he puts it). This implies that it must be as *generalized* in form and function as is consonant with sound *specialized* performance today. He does not think the two are mutually exclusive and cites his new laboratory as an illustration of his point.

The problem of immortality (or at least long life) in architecture is closely related to that of monumentality. Traumatized, like all architects, by the terrifying impermanence of fashionable idiom, Kahn tries consciously to expunge such devices from his building. Hence the deliberately limited and sober range of color and texture of materials employed. On the other hand, there are aspects which he thinks have a permanent validity. The joint is one of these. This is a highly articulated building both in terms of the connections of its masses and the joints of its skeletal and walling tissues. In both cases, the event is made the occasion for a celebration. Thus the served and servant areas are grouped together in a sort of community of forms. Although their disposition was determined by functional relationships, in three-dimensional reality they nevertheless take on almost the aspect of those convocations of personages that are sometimes found in Byzantine mosaics. And the joint (which Kahn considers to be the point of origin of all ornament) is also raised to the level of artistic fact, whether between two members of his skeleton, or between the brick infilling and the spandrel beam, or between the glass and the stepped profile of the cantilevered spandrel. All these features add interest to his façade, and he thinks this interest will survive because it is umbilically tied to simple structural truth.

While satisfied with his laboratory building and confident that he has done a good job within the limits given, Kahn is extremely careful in his estimates of it. He sets a very high minimum standard for what he calls architecture (as opposed to what he calls building which, while essential, exists at a qualitatively lower level). Part of this standard involves excellence of conception and execution; but part of this is dependent upon the program itself. Kahn is not one of those who believe that a sow's ear can be styled up into a silk purse. Neither does he believe that a pumping station can be raised to the order of magnitude of a temple, no matter what skill or resources are brought to bear upon the problem. At the very most, the result will only be good building (though that too, of course, is also necessary).

But architecture, for Louis Kahn, is always marked by two overarching qualities—"a harmony of systems" and a "hierarchy of ennobling spaces." The first of these will be found even in good building but the latter is the *sine qua non* of true architecture. As a type, the laboratory not only does not call for this type of exalted spatial experience, it does not by its very nature permit it. This fact conditions Kahn's judgment of his University of Pennsylvania building. But it need not limit the judgment of others.

America has many gifted architects. Today, most of them seem to be watching each other to find out, as they say in the notions-and-novelties trade, "what the competition is up to." This is the only conclusion that can be drawn from their work, since so little of it shows that stylistic independence and consistency of development which is the infallible reflection of firm esthetic conviction. Against such a background, Kahn's work is electrifying, demanding respect because it is so clearly grounded on granite principle and not the pink Jello of Madison Avenue expediency. END

. . . an infallible reflection of firm esthetic conviction.



GEORGE CSERNA

they house, and must be good art as well. Industry in the U.S. spends billions of dollars every year in new construction. To us there is little question that each of these buildings can, and should, make a specific contribution to the beauty and culture of the community in which it is located."

S. C. Johnson & Son, which had Frank Lloyd Wright design its famous headquarters 21 years ago and its "heliolab" tower a decade later, is satisfied that as Racine, Wisc.'s major landmark it still attracts able employees and some 7,000 visitors a year. The building, Johnson feels, has "strengthened the company's position of leadership; it gives a clear image of a corporation that dares to be different." Johnson executives also believe that through working in a "nonconformist" building, they and their employees have developed a healthy indifference to conformity, and an appreciation of good design which shows up in advertising, packaging, and other efforts—a fact which may have something to do with the company's leadership in its field.

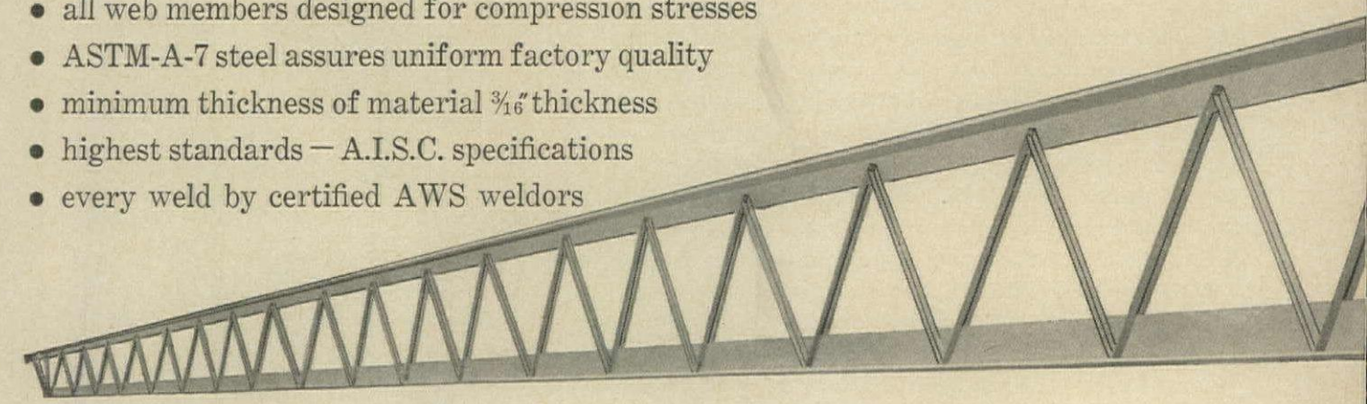
In the pharmaceutical business, Detroit's Parke, Davis & Co. also ascribes its distinguished branch office and warehouse building program to a conscious, if simple, corporate policy: "We seek out the best in modern, enlightened architectural design, just as we are on the lookout for the most up-to-date laboratory equipment or anything else." In Pasadena, fast-growing little Stuart Co. has welcomed some 15,000 visitors in the last year to its romantically Stone-screened, white and gold "pill palace," 6,000 of them doctors whose product opinions are not unimportant in the highly competitive ethical drug business. Says Vice President Ludwig Lauerhass: "The building has made for excellent public relations both with professional and lay groups. As far as employees are concerned, it has been superb. Personnel turnover and absenteeism are remarkably low. Our workers take great pride in the building, and bring their families during evenings and week ends to enjoy a swim in the outdoor pool and a barbecue or picnic supper in the pavilion. The publicity we have received throughout the industry, and the world, could not be purchased at any price."

While corporations watch the thin line between architecture and pure show business in using design to become known and loved, one company actually in show business offers some interesting comments. As architecture, Capitol Records' office building in Hollywood has played to mixed reviews, but at least it stands out with flair in the show business capital. Says President Glenn Wallichs: "Most people assume that our tower, which resembles a stack of phonograph records, was a conscious effort at identification on our part. Actually the architect, Welton Becket, came to us with a plan for a circular office building, a notably functional design with many advantages of space and layout. At the time we thought we wanted something more substantial, more 'dignified.' I'm thankful Mr. Becket was persistent. The tower is the city's only real landmark, and with 6 million tourists visiting Hollywood every year, we feel we gain identity in the minds of countless potential record-buyers. The actual advertising worth of the building is pure guess-

1950: 65 feet long . . . 1955: 125 feet long . . .

NOW: HAVEN-BUSCH T-CHORD* LONGSPAN JOISTS

- the longest steel joist made
- one-piece fabrication with matched-fit splices
- modern T-Chord* construction
- all web members designed for compression stresses
- ASTM-A-7 steel assures uniform factory quality
- minimum thickness of material 3/16" thickness
- highest standards — A.I.S.C. specifications
- every weld by certified AWS weldors



Opens new horizons for you in planning larger clearspan, column-free interiors.

*T.M. Reg.

work, of course, but we feel it probably accounts for an added $500,000 in promotional impetus a year."

Contagious design

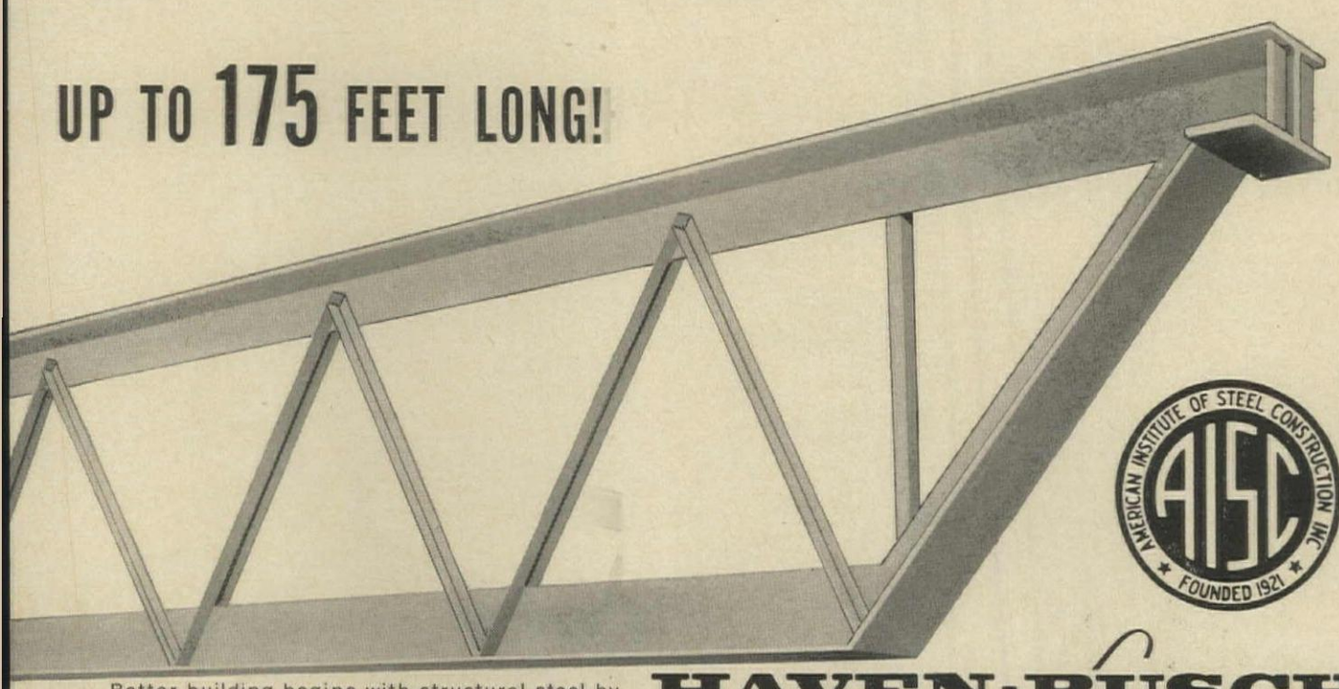
In studying the experience of businessmen with their architecture, one might be drawn to several conclusions and probably be right. A building can be not only a powerful physical focus for corporate identity, but often a more convincing one than less tangible forms of advertising and public relations, and a solid framework around which to build good will. Fresh architecture can, and has, proved both the impetus and the opportunity for corporate reorganization, new policies, new forward thrust. But beyond this, more businessmen are realizing that architecture, as the most public of the arts, is something of a public utility as well. It is probably significant that utility companies, often most sensitive to community opinion, recognize it as such. Among architecture-conscious companies in the field—which include General Telephone of the Southwest in San Angelo, Tex., and Missouri Public Service outside of Kansas City—the attitude of British Columbia Electric of Vancouver might be considered typical. "Being a public utility," says Executive Vice President H. L. Purdy, "and a large company by local standards, we feel a strong obligation to set a good example in matters of civic betterment. We wanted to erect a building which would be a civic asset, and one which might encourage others in our city to aspire to a higher standard of architecture."

Good architecture spreads as one company sees the wisdom of another. It also spreads, more subtly, through the civic sinews of the community. Since the Washington Water Power Co., for example, built its handsome, well-landscaped headquarters outside Spokane, downtown business leaders have formed a committee to raise $150,000 among themselves for a professional study aimed at rehabilitating the rest of the city's river front and a good part of downtown as well. Coincidentally or not, Spokane is also going through a reorganization of its city government, and businessmen have filed for mayoral and city council posts. Says WWP President Kinsey M. Robinson: "Businessmen today are beginning to appreciate the fact that a community is only as good as its leadership, and that this leadership is their responsibility. By their participation, and by their sponsorship of the best in planning, architecture, and landscape design, they can create a more attractive climate for new business. And equally important, they can create a more beautiful and efficient city for themselves." END

Architects of buildings mentioned in this article:

Lever House, Manufacturers Trust, Connecticut General, Reynolds Metals (Richmond): Skidmore, Owings & Merrill. Mutual Insurance of Hartford: Sherwood, Mills & Smith. Alcoa: Harrison & Abramovitz. Reynolds Metals (Detroit): Minoru Yamasaki & Assoc. Texas Instruments: O'Neil Ford, Richard S. Colley, A. B. Swank. Parke, Davis & Co.: Minoru Yamasaki & Associates and others. Stuart Co.: Edward Durrell Stone. General Telephone of the Southwest: Pace Associates. Missouri Public Service: Kivett & Myers & McCallum. B. C. Electric: Thompson, Berwick & Pratt. Washington Water Power: Kenneth Brooks, Bruce Walker.

UP TO 175 FEET LONG!



AMERICAN INSTITUTE OF STEEL CONSTRUCTION INC AISC FOUNDED 1921

Better building begins with structural steel by

HAVEN-BUSCH Company

Write for illustrated brochure with full technical data.

3453 Chicago Drive, S.W., Grandville, Mich.
CHICAGO OFFICE: 228 N. LaSalle

DESIGNERS • FABRICATORS • ERECTORS
SINCE 1888
T-Chord* Longspan Joists — Structural Steel — Miscellaneous Iron



From an old farm to a $20 million shopping area—that's the exciting story



This is the fifth and largest unit. It contains 16 stores and 225,000 sq. ft.



Owners: At left, Mr. A. Page Sloss. Center, Mr. Everett Shepherd. At right, builder, Mr. H. A. Brice, Sr.
Architect: Henry Sprott Long, Birmingham, Alabama.
Steel Erector: Brady Faucett Erection Co., Birmingham, Alabama.



of Five Points West Shopping City, Birmingham, Alabama.



of space. Everett Shepherd and Page Sloss conceived the idea and developed it into the biggest shopping center in Alabama. Builder, H. A. Brice, Sr., gave it a backbone of USS Structural Steel —417 tons of it. "A builder can make longer spans, and do the job quicker with structural steel," says Mr. Brice, "and most important, it's economical and we can get it right here in Birmingham from United States Steel." *USS is a registered trademark*

USS

United States Steel Corporation—Pittsburgh
Columbia-Geneva Steel—San Francisco
Tennessee Coal & Iron—Fairfield, Alabama
United States Steel Supply—Steel Service Centers
United States Steel Export Company

United States Steel

"This will be the first large supply of new housing available to Negroes in Philadelphia and it may become the first large-scale integrated area of the city."

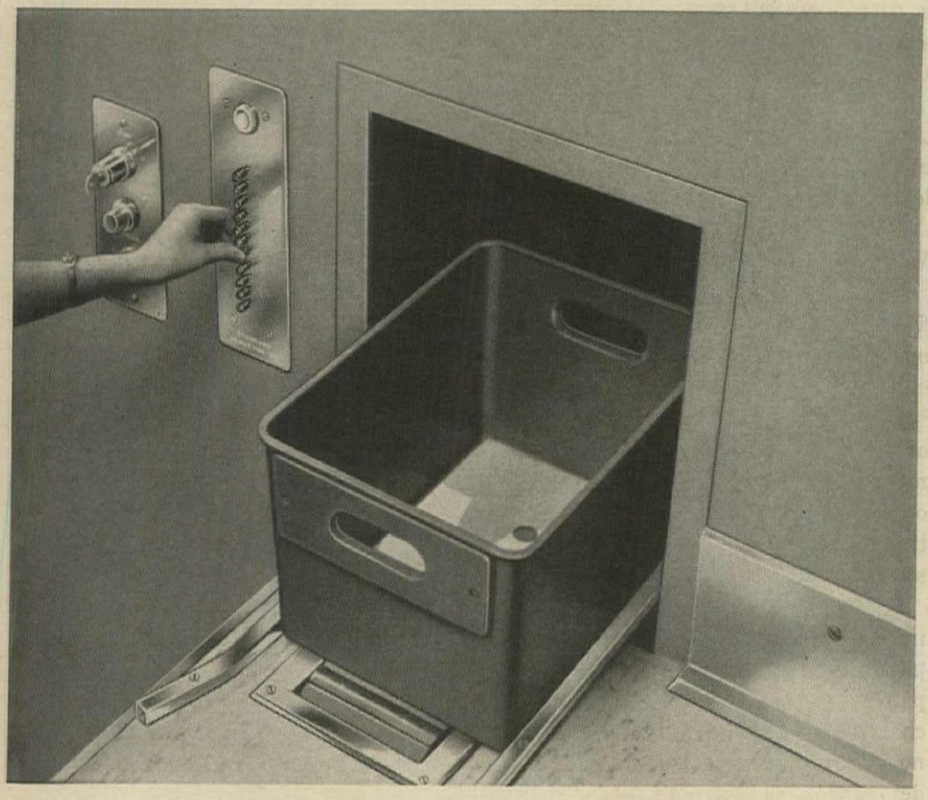
Most cities say their renewal programs are not far enough along yet to gauge fairly the final result. But it is already apparent from progress in New York City, Chicago, and several other large cities that most projects will not accomplish much more than clearing patches of slums and substituting new housing. By and large it is housing that will not accommodate those living in the replaced slum or the surrounding neighborhood, so in effect, it must attract a different breed of city dwellers, usually older, well-to-do couples without children, or professionals who have long spurned the suburbs. Moreover, though urban renewal housing is thought of as open-occupancy housing, it is for whites only. This is due simply to high rents, too prohibitive for any but the tiniest minority of high-income, Negro professional families. One New York housing expert, when asked his opinion of the effect of housing white families in Harlem Title I projects, scornfully characterized such integration as "gilding the ghetto." Neither public housing nor urban renewal has done much to solve the basic problem of housing the vast number of Negro families, new and old urbanites, in central cities. Basically, this has been because neither program has been big enough to solve the housing shortage which underlies the whole problem. In New York, scene of the nation's biggest urban renewal and public housing programs and its biggest private apartment boom, a total of 380,000 housing units has been produced in the past decade; yet, according to a recent analysis by J. Anthony Panuch, the city today has the same basic housing shortage it had ten years ago. It still lacks 430,000 units in meeting its needs, and this was exactly the deficiency in 1950. Thus 38,000 units a year on the average (25,000 of them new) are only enough to keep New York standing still. At this pace, it will be 20 years before the city pulls abreast of today's needs.

A hopeful augury

Urban experts agree that the future of the slums depends in large measure on the slum dwellers themselves—largely, the new urbanites. Yet, the fate of the new urbanites is in turn tied to the progress of the older generations of Negro city dwellers. In housing, both groups suffer equally from the patterns of residential segregation which have operated for years to compress the poorest racial minorities into the poorest housing in central city slums. No single factor has limited the drive to establish a stable Negro middle class more than residential segregation. Yet there is now real hope that a completely free housing market, which city officials in every northern and western city see as indispensable to Negro progress, is attainable, and indeed may become a reality within a generation.

STANDARD RECORDLIFT

speeds interfloor data handling
for insurance company



MAIL AND OFFICE RECORDS DISPATCHED
AUTOMATICALLY IN VOLUME

You can practically set your watch by the mail deliveries at Mutual Service Insurance Companies, St. Paul, Minn. Thanks to a recent Standard Recordlift installation, deliveries are maintained every hour on the hour — promptly.

The Recordlift is controlled by Magnetic Memory, making it completely automatic. The operator merely presses the destination button and places the mail container on the loading station. Minutes later the container is at the preselected floor.

If YOUR building plans include fast express service for multi-story distribution of mail and office data, investigate the ultra-modern advantages of the Standard Recordlift. STANDARD CONVEYOR COMPANY, NORTH ST. PAUL 9, MINNESOTA.

For the full story on the Standard Recordlift, send for BULLETIN NO. 151. Address Dept. BB-7.



STANDARD
GRAVITY & POWER CONVEYORS
Sales and Service in Principal Cities

OVER 50 YEARS of conveyor experience

This hopeful augury comes from two directions: 1) the growing experience of builders with interracial housing and coincident dispelling of many of the myths that formerly limited such building, and 2) the growing inclination of governments at all levels to insure more carefully the extension of democratic rights to all persons. The latter is of even more recent vintage than the former although the first privately developed interracial development is less than a quarter century old. Since the Supreme Court made restrictive covenants unenforceable in 1948, government has slowly moved toward recognition of the full constitutional rights of racial minorities, and has even devised legal means of insuring them. New York has been a pioneer in this regard. The state, several years ago, passed a law banning discrimination in the sale or rental of publicly subsidized housing (13 other states have since passed similar legislation), and New York City recently passed the nation's first law banning discrimination in the sale or rental of private housing. (Pittsburgh has since followed this lead.) Although New York officials admit that such laws have not obliterated bias in one fell swoop, they maintain that they are a critical factor in diminishing discrimination.

Another vital governmental action, since the 1948 decision, has been the elimination of bias in federally insured housing by the Federal Housing Administration and Veterans' Administration. This is a significant reversal of FHA policy, which for years supported the notions of the real estate and home-building lobbies that racially integrated neighborhoods were by definition unstable and contributed to declining property values. While FHA has not been so vigorous as many civil-rights exponents would like in the prosecution of its no-bias dictum, it is at least in step with the progressive action being taken by many cities and states.

Equally important as these bias-curbing actions by government has been the building of interracial housing itself. In the postwar years, about 10,000 units (an admittedly small part of the 12-million total) have been built as interracial housing by private developers. Many of these have been sponsored by social-religious groups such as the American Friends Service Committee, and most of the others have been put up with less regard for profit than for social purpose. Still, the profit record of almost all of the 50 interracial projects erected in the U.S. in the past two decades is good, according to a recently published survey (*Privately Developed Interracial Housing*, by George and Eunice Grier). More important, these projects have laid to rest some closely held myths of the building business:

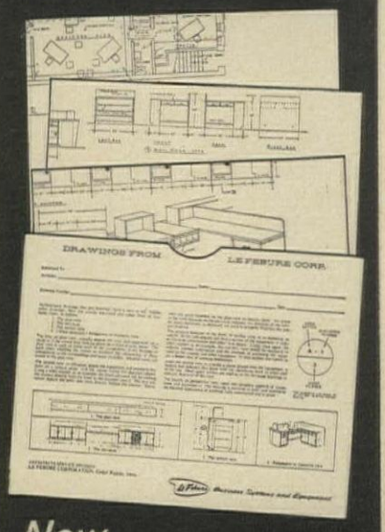
- Whites have bought housing knowing that Negroes would be their neighbors. (Half of the projects built involved home ownership, 32 per cent were cooperatives, and 18 per cent were for rental.) In fact, 30 per cent of the projects are stabilized with over 59 per cent of the units occupied by nonwhites, a much higher percentage of nonwhites than is generally considered feasible.
- It is possible, though difficult, to get financing for interracial projects, and in the past year or so, large lenders have become more receptive to such projects in certain northern and West Coast areas.
- It is possible, though difficult, to find sites which will be attractive not only to nonwhites, whose housing choice is limited, but to whites who have much wider choice. The caliber of housing in an interracial project must generally be higher than in white-only housing at the same price, sometimes to compensate for fewer desirable sites available for such housing.
- There has been almost no friction in such interracial projects once occupancy was stabilized. When all occupants are selected strictly in terms of character and credit, the results are no different than those in all-white developments.
- It is possible for a development that was once all-Negro to become integrated, without public aid. Hillview, a California rental project with 316 units, once a predominantly Negro neighborhood, now has a majority of white families. In fact, the project was never successful financially until it became interracial.

Probably the best-known builder of interracial housing today is Morris Milgram, president of Modern Community Developers, Inc. in Princeton, N. J. With initial backing from wealthy Philadelphia Quakers, Milgram built

continued on page 192

For Designing and Remodeling

BANKS and SAVINGS & LOAN ASSOCIATIONS



New

FREE KIT of PLANS

Financial building and remodeling is booming . . . and is going to continue at a record pace! This new kit, prepared by LeFebure's Architects Service Division, contains architectural drawings and chronological case histories of actual financial projects where LeFebure and the architect worked hand in hand.

LeFebure, with over 60 years' experience, is a recognized leader in the development of systems and equipment for banks and savings/loan associations.

See for yourself the results that are achieved when LeFebure experience is integrated with your own particular skills and talent. Send for this free kit for your files.

LeFebure **LeFEBURE CORPORATION** Cedar Rapids, Iowa

An Affiliate of Craig Systems, Inc., Lawrence, Mass.

ARCHITECTS SERVICE DIVISION
LeFEBURE CORPORATION
Cedar Rapids, Iowa

SEE OUR CATALOG IN SWEET'S

Please send FREE KIT of Financial Building Case Histories and Plans

NAME

STREET OR BOX NO.

CITY & STATE

several interracial developments near Philadelphia, and has since branched out into the suburbs of other cities. His most famous project is in Deerfield, Ill., near Chicago, where his recent efforts to erect 51 units of high-priced homes to be sold on an interracial basis have met with angry local opposition. Recently, the district court determined that the town of Deerfield was within its constitutional rights in condemning Milgram's land, to be used ostensibly as a town park. Meanwhile, Milgram is continuing with plans to build interracial homes in suburbs of Washington, Wilmington, Del., Waterbury, Conn., and Princeton.

Another myth that has been laid to rest, though some realtors are still fighting a holding action to protect it, is that the entry of nonwhites into white neighborhoods will depress values. Early this year, a pioneer work appeared, called *Property Values and Race,* by Luigi Laurenti. Like the Griers' book, this one was issued by the Commission on Race & Housing, a private organization backed by the Fund for the Republic. After studying housing experience in seven different cities, Laurenti concluded that rather than depressing values in areas of racial transition, the entry of nonwhites usually results in a long-term strengthening of property values.

Needed: full participation

Despite the work of the Griers and Laurenti, and the steadfast willingness of a handful of builders to demonstrate painfully that interracial housing can be profitable, the great majority of businessmen and government officials in the construction industry, those who could solve the critical dilemma of equal housing opportunities for all, still seem unconvinced. In a democratic society, the building industry, or indeed the white majority as a whole, cannot be forced to adhere to democratic principles. But there is growing hope that, even if the building industry cannot devise means or muster the effort to build enough housing to meet the most critical shortages, it can be induced to make its wares available to all comers on a fully equitable basis. This must start in the cities, of course, and indeed it has been in the cities, under the impetus of urban renewal and public housing open-occupancy rules, that a free housing market is already developing. But, as long as the mobility of racial minorities is restricted to central city housing, there can be no ultimate solution, either for the fast-growing Negro middle-income groups, or for the new urbanites who are striving to attain that status.

Negroes themselves are the first to deny that open occupancy in suburban housing would lead to a flood of Negro families to the suburbs. Those families that could afford such housing are generally those that are happily housed in the finest residential areas of the city. There are few Negro families, regardless of how high their incomes or status might be, who would care to face the uncertainty of living in what would most likely be—at least at first—an inimical environment.

The growth pattern of the great metropolitan areas is coalescing the city and the suburbs, and within this framework the role of the new urbanites becomes more meaningful. As the influx of new urbanites slows down, and it already has in most cities, the housing situation in central cities will become more stable. As housing opportunities are opened up, and they are already opening up, middle-income Negroes and other racial minorities will be able to participate fully in the cultural and economic development of the U.S. community. Such participation is not only badly needed today to counterbalance the dangerous tendency toward homogeneity of thought and action in the American community, but it is also vitally needed for the fullest proliferation of the democratic dynamic.

The new urbanite of today, like the European immigrant of half a century ago, seeks in the city that opportunity which is unavailable in his old land. He comes for freedoms formerly denied. That he is at first not discouraged by his environment, the slum, and its inevitable social desolation is only a mark of the sturdiness of his expectations. Aside from all the readily evident evils coincident to the slum ghetto and its perpetuation is the other greater evil that befalls the newcomer whose aspirations become strangled by ignorance and poverty of principle. He can see in his plight only the final tragedy: the negation of the American dream.

END

Five specific
architectural
advantages



TEMPRITE®
WALL/TEMP
drinking water coolers

1. Mounts flush to the wall and off the floor.
2. Floor area clear for floor maintenance ease.
3. Plumbing connections fully concealed.
4. Mounts at children's height if desired.
5. High capacity. Small size. Light weight.

Engineered and beautifully styled to enhance and support creative architectural design. Space is conserved and floor areas cleared completely as the self-contained water cooler now blends gracefully into the building structure. Long-life Temprite quality. *Consult Sweet's or write direct.*

SELF-CONTAINED, REFRIGERATED
ELECTRIC WALL FOUNTAIN



Cooling capacity in 6 g.p.h. and 13 g.p.h.

Deep anti-splash basin in heavy gauge stainless steel.

Cooling system combines instantaneous cooling plus storage. Complies with all sanitary codes.

TEMPRITE PRODUCTS CORPORATION
BIRMINGHAM, MICHIGAN
Manufacturers of a complete line of electric drinking water coolers

Age Only **Deepens**

THE BEAUTY of this PROTECTED FLOOR

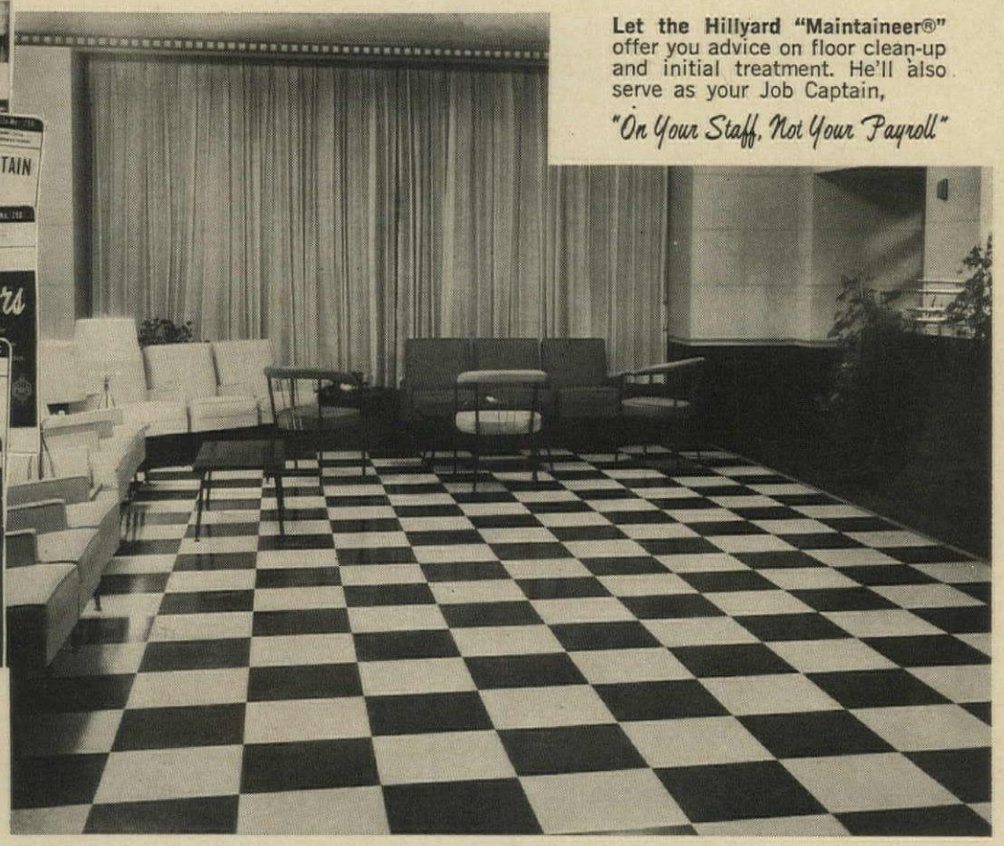
SUPER ONEX-SEAL® seals out dirt, moisture and traffic wear, gives a lustrous, three-dimensional look to the floor surface. Friction of feet tends to deepen the lustre, an effect similar to that of hand-rubbed hardwood. Enhances the natural colors of terrazzo. Outdoors too, on store entrances, patios, shuffleboard courts or dance floors, Super Onex-Seal holds the beauty of the smooth protected surface.

A SUPER ONEX-SEAL surface is hard, smooth, firm. It is the penetrating type seal recommended by leading terrazzo contractors. Alkaline salts are sealed in so that the problem of dusting is eliminated. "Terrazzo should not be waxed."– Bulletin of Nat'l Terrazzo & Mosaic Assn. Sealed floor needs only minimum maintenance to keep clean and sparkling.

UL listed for slip resistance.



Write for FREE Hillyard A.I.A. Numbered Files — practical treating guides, one for each type of flooring.



Let the Hillyard "Maintaineer®" offer you advice on floor clean-up and initial treatment. He'll also serve as your Job Captain,

"On Your Staff, Not Your Payroll"

WHETHER TERRAZZO, WOOD, CONCRETE, CERAMIC TILE or RESILIENT FLOORS

PRODUCERS' COUNCIL

IN SWEET'S ARCHITECTURAL FILE



You'll Finish Ahead with

HILLYARD

H I L L Y A R D

Passaic N. J. ST. JOSEPH, MO. San Jose, Calif.

DEPT. A-1

Branches and Warehouse Stocks in Principal Cities

DOW | BUILDING PRODUCTS



MILLARD FILLMORE HOSPITAL, Buffalo, N. Y. Architects: Kidd and Kidd.



A. D. Pearson, vice president of Jewett Refrigerator Company, Inc., an Approved Insulation Contractor.

STYROFOAM®

Dow Approved Insulation Contractors offer design assistance to the architect and assure quality installation for low temperature applications

Economical, efficient cold storage rooms and other low temperature facilities have two important engineering requirements—efficient insulation and proper installation. That's why Dow established an Approved Insulation Contractor program for its outstanding low temperature insulation, Styrofoam†. Dow awards this approval only to carefully selected contractors capable of giving the architect technical design assistance, followed up by quality installation.

AIC installs over ¾ million board-feet!

Typical of the more than 90 Dow Approved Insulation Contractors is Jewett Refrigerator Company, Inc., Buffalo, New York. An AIC for three years, Jewett has installed more than three-quarters of a million board-feet of Styrofoam. To serve the architect, Jewett offers a design staff of engineers to make specific recommendations and detail out plans.

Combined cooling and deep-freeze facilities were constructed, using Styrofoam, for the hospital research institute. Low temperature rooms for meat, dairy products, fruit, vegetables and other purposes were constructed.



A typical Jewett job is the recent major modernization program for the Millard Fillmore Hospital in Buffalo. Styrofoam was used to insulate a variety of low-temperature facilities. Jewett designed and constructed combined cooling and deep-freeze facilities for the storage of enzymes, proteins, blood specimens and other substances under study in the adjoining research institute. Also part of the project was the building of refrigerated storage rooms for food service, and for other cold storage requirements as well.

Says A. D. Pearson, Jewett vice president: "Styrofoam impresses us with its qualities of lighter weight, easier handling, simplicity of installation and non-absorbency of moisture. Once it's installed properly, Styrofoam affords permanent insulation efficiency, and we never have to worry about the job."

For the names of Approved Insulation Contractors near you . . . for more information about Styrofoam for low-temperature applications or for comfort insulation uses, write THE DOW CHEMICAL COMPANY, Midland, Michigan, Plastics Sales Department 1703LH7.

†Dow's registered trademark for its expanded polystyrene.

Other Dow Building Products

SCORBORD® (Pat. applied for) — Rigid expanded polystyrene insulation for foundation perimeters, slab floors. Exclusive pre-scored feature speeds installation.

ROOFMATE®—Rigid, lightweight insulation for built-up roofs—serves as its own moisture barrier.

SARALOY® 400—Durable, elastic flashing material installs without prefabrication, can be conformed to irregular shapes.

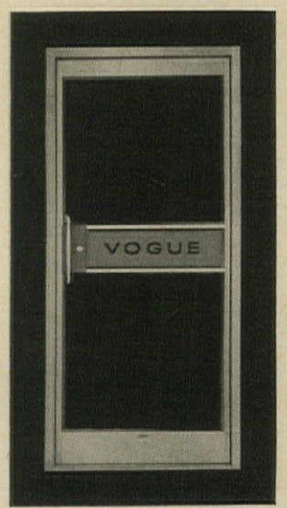
POLYFILM®—High-quality polyethylene film for use as a moisture or vapor barrier and for temporary enclosures.

*TRADEMARK

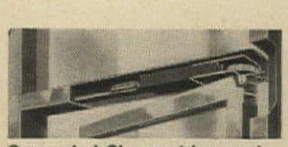
THE DOW CHEMICAL COMPANY • MIDLAND, MICHIGAN

the people who put closers

five new doors to put 'em in



Style Leader 125—For atmosphere (jewelry stores, clothing stores, specialty shops) or prestige (banks, stores) with high strength.



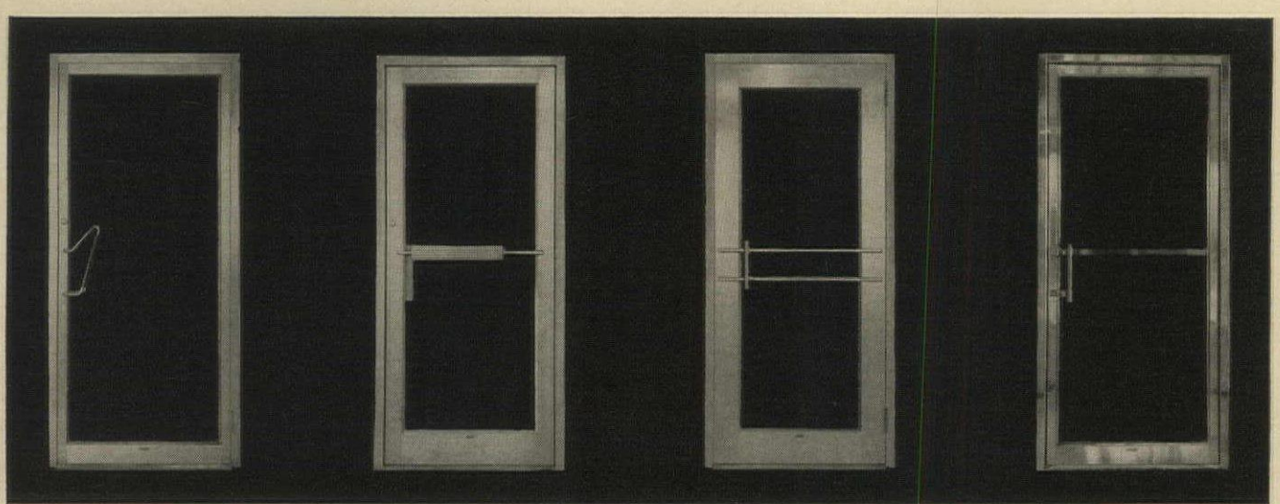
Concealed Closer at low cost—installs in 1¾" transom bar; no holes to dig, no cement case to set, no complex adjustments. Available with all Kawneer entrance packages.

in their place, now make



Concealed Automatic Operator with nothing to bury in floor or hang over door—installs in 4½" transom bar; wired to mat through the frame. Available with all Kawneer entrance packages.

(5) (HH) (V) (✋)



Narrow Stile 188—For normal to heavy traffic flow (stores, office buildings).

Extra Duty 350—For extra heavy traffic flow (supermarkets, schools).

Wide Stile 500—For massiveness and solidity (governmental or other monumental buildings) where a wider stile is dictated by hardware specs.

Stainless Steel 200—For special decors, with exceptional resistance to wear and weather.

Serving Architecture and Industry
Kawneer
General Offices
NILES, MICHIGAN
ARCHITECTURAL PRODUCTS DIVISION
since 1906

Call your Approved Kawneer Installing Dealer for DUTY-RATED ENTRANCE PACKAGES with "tuned-to-the-traffic" design

Ad Index

Italic line indicates advertising agency

AirWall, Inc. 62, 63
Connor Associates, Inc.

All-Steel Equipment, Inc. 156
Marsteller, Rickard, Gebhardt & Reed, Inc.

Aluminum Company of America 175
Fuller & Smith & Ross, Inc.

American Brass Co. 45
Kenyon & Eckhardt, Inc.

American Gas Association 178, 179
Ketchum, MacLeod & Grove, Inc.

American Standard Industrial Div. 21, 22, 23, 24
Brooke, Smith, French & Dorrance, Inc.

Armstrong Cork Company 152, 153
Ogilvy, Benson & Mather, Inc.

Balfour & Co., Walter 56
Marshall & Coch, Inc.

Barrett Division (Allied Chemical Corporation) 52, 53
McCann-Erickson, U.S.A.

Bayley Co., William 138
Wheeler-Kight & Gainey, Inc.

Bestwall Gypsum Company 148
Thomas & David, Inc.

Brown Company 72
J. M. Mathes, Inc.

Brunswick Corporation 32, 33
Garfield-Linn and Company

Burgess-Manning Co. 167
Merchandising Advertisers, Inc.

Carrier Corp. 151
N. W. Ayer & Son, Inc.

Celotex Corp., The 73
MacFarland, Aveyard & Co.

Chicago Hardware Foundry Co. 72
Wilson Advertising Service

Cirvac Plastics 59
Davies and McKinney Industrial Adv. Agency

Committee On Steel Pipe Research 18
Smith, Taylor & Jenkins, Inc.

Corning Glass Works 27
The Rumrill Company, Inc.

Dor-O-Matic Div. (Republic Industries, Inc.) 29
Merrill, McEnroe & Associates, Inc.

Douglas Fir Plywood Assn. 74, 75
The Condon Co.

Dow Chemical Company 194, 195
MacManus, John & Adams, Inc.

du Pont de Nemours & Co., E. I. 35
N. W. Ayer & Son, Inc.

Dur-O-Wal 166
Roche, Rickerd & Cleary, Inc.

Dusing and Hunt, Inc. 58
BVM Advertising Service

Eastern Products Corporation 41
The S. A. Levyne Company

Eljer Division of The Murray Corp. of America 38
Fuller & Smith & Ross, Inc.

Facing Tile Institute 17
Henry J. Kaufman & Associates

Fenestra Incorporated 164, 165
Brooke, Smith, French & Dorrance, Inc.

Flintkote Comany, The 42, 43
McCann-Marschalk Co. Div. of McCann-Erickson, Inc.

Flynn Mfg. Co., Michael 2, 3
Erwin Wasey, Ruthrauff & Ryan, Inc.

General Fireproofing Co. 54
The Griswold-Eshleman Co.

General Tire & Rubber Co. (Building Materials Division) 155
D'Arcy Advertising Co.

Glynn-Johnson Corp. 67
Edwin E. Geiger Advertising

Haven Busch Company 186, 187
Schmidt & Sefton

Haws Drinking Faucet Co. 154
Pacific Advertising Staff

Hillyard Chemical Company 193
Fardon Advertising, Inc.

Hope's Windows, Inc. 20
The Moss-Chase Company

Inland Steel Products Co. 70, 71
Hoffman, York, Paulson & Gerlach, Inc.

Integrated Ceilings & Grilleworks, Inc. 46, 163
Boylhart, Lovett & Dean, Inc.

International Nickel Co., Inc., The 12
McCann-Marschalk Co. Div. of McCann-Erickson, Inc.

Irving Subway Grating Co., Inc. 144
Richmond Advertising Service, Inc.

Johnson Service Co. ..... **Cover IV**
Hoffman, York, Paulson & Gerlach, Inc.

Kawneer Co., The 196, 197
Fuller & Smith & Ross, Inc.

Kentile, Inc. ..... **Cover III**
Benton & Bowles, Inc.

Kinnear Mfg. Co. 16
Wheeler-Kight & Gainey, Inc.

Kliegl Bros., Inc. 66
Carpenter-Proctor, Inc.

Knoll Associates, Inc. 149
The Zlowe Company

Koppers Company, Inc. (Tar Products Division) 30
Marsteller, Rickard, Gebhardt and Reed Inc.

Lefebure Corp. 191
Warren & Litzenberger

Libbey-Owens-Ford Glass Co. 171, 172, 173, 174
Fuller & Smith & Ross, Inc.

Mahon Company, R. C., The 176, 177
Dudgeon, Taylor & Bruske, Inc.

McCloskey-Grant Corp. 66
Cahall Advertising Agency

McLouth Steel Corporation 64
Denman & Baker, Inc.

McQuay, Inc. 26
Grubb-Cleland Co.

Mills Company, The 145
Carr Liggett Advertising, Inc.

Minneapolis-Honeywell Regulator Co. 19, 57
Foote, Cone & Belding

Mississippi Glass Co. 180, 181
Ralph Smith Advertising Agency

Monsanto Chemical Co. 136, 137
Needham, Louis & Brorby, Inc.

Montgomery Elevator Co. 15
The L. W. Ramsey Advertising Agency

Mosaic Tile Company, The 183, 184
Farson, Huff & Northlich, Inc.

Mueller Brass Co., The 34
Price, Tanner & Willox, Inc.

National Tube Division (United States Steel Corp.) 8, 9
Batten, Barton, Durstine & Osborn, Inc.

Pittsburgh Plate Glass Co. 76, 77, 157, 158, 159, 160, 161, 162
Batten, Barton, Durstine & Osborn, Inc.

Portland Cement Association 28
J. Walter Thompson Co.

Rixson Company, Oscar C. 170
Edwin E. Geiger

Republic Steel Corp. 168, 169
Meldrum & Fewsmith, Inc.

Rohm & Haas Co. 44
Arndt, Preston, Chapin, Lamb & Keen, Inc.

Sanymetal Products Co., Inc., The 65
Clark & Bobertz, Inc. Hickox-Donnelley Div.

Shlagro Steel Products Corp. 147
Parsons, Friedmann & Central, Inc.

Sloan Valve Company 4
Reincke, Meyer & Finn, Inc.

Smoot-Holman Company W-2
Neale Advertising Associates

Soule Steel Company W-1
L. C. Cole Company, Inc.

Standard Conveyor Co. 190
Klau. Van Pietersom. Dunlap, Inc.

Standard Electric Time Co., The 37
William Schaller Co., Inc.

Standard Products Co., The 36
Fuller & Smith & Ross, Inc.

Standard Tile Co. 40
D. M. Grattan Co.

Stran-Steel Corporation 150
Campbell-Ewald Co.

Summitville Tiles, Inc. ..... **Cover II**
Belden & Frenz, Inc.

Taylor Co., The Halsey W. 14
The Advertising Agency of William Cohen

Temprite Products Corp. 192
Watkins-Rogers, Inc.

Thomas Industries, Inc. 39
(Benjamin Division) The Biddle Co.

Tyler Refrigeration Corp. 182
Jones & Taylor, Inc.

U-C-Lite Mfg. Co. 72
Merrill, McEnroe & Associates, Inc.

Union Bag-Camp Paper Corp. 56
Smith, Hagel & Knudsen, Inc.

United States Ceramic Tile Co. 25
The Griswold-Eshleman Co.

United States Gypsum Co. 68, 69
Fulton, Morrissey Co.

United States Steel Corp. 183, 189
Batten, Barton, Durstine & Osborn, Inc.

United States Steel Corp. (National Tube Division) 8, 9
Batten, Barton, Durstine & Osborn, Inc.

Universal Atlas Cement Co. (United States Steel Corp.) 142
Batten, Barton, Durstine & Osborn, Inc.

Universal Match Corp. (American Air Curtain) 78
D'Arcy Advertising Company

Virginia Glass Products Co. 135
George C. Moore

Vogel-Peterson Co. 143
Ross Llewellyn, Inc.

Ware Aluminum Windows, Inc. 31
Willard G. Myers Advertising Agency

Wayne Iron Works 59
Harris D. McKinney, Incorporated

Westinghouse Electric Corp. 60, 61
Fuller & Smith & Ross, Inc.

Wilkinson Chutes, Inc. 66
The Carpenter Advertising Co.

Yuba Consolidated Industries, Inc. 146
The McCarty Company

Theaters . . . cities . . . footprints . . . romance

THOROUGH THEATERS

Forum:

Your issue "Building for the Performing Arts" (FORUM, June '60) was long overdue. I am delighted you turned out such a thorough job.

DONALD OENSLAGER
Stage designer
New York City

CHANGING CITIES

Forum:

I greatly enjoyed Part I of your New Urbanites series (FORUM, June '60) and have, in fact, begun a series of excerpted insertions in *The Congressional Record* under the general heading of "The Changing Face of American Cities."

DONALD J. IRWIN
U. S. Representative
Washington, D. C.

■ *Part II begins on page* 118.—ED.

Forum:

"The new urbanites" ably reviews the social facts in connection with the population shift that has taken place in the last ten years, and concisely details the resultant social and economic effects with the public-policy questions they raise.

The cities' task in connection with these new migrants is to help them to speed up the process of assimilation and to help them to become, in as short a time as possible, productive and responsible citizens who find opportunities open to them and who respond to new opportunities as did the immigrants of an earlier generation.

RICHARD J. DALEY, *mayor*
Chicago



AUSTRALIAN DISTINCTIONS

Forum:

The location of the Australian Academy of Science building (FORUM, Oct. '59—photo at left) is Canberra, not Melbourne, where you misplaced it.

Furthermore, Melbourne citizens, even though they claim many distinctions which may or may not be correct, are hardly subject to "the scorching sun." (Melbourne's mean annual temperature: 59 degrees F.)

M. LOBL, *engineer*
Sydney, Australia

GREENBELT LESSONS

Forum:

Your excellent article on Chatham Village in May happened to coincide with a meeting held by the Washington Chapter of the American Institute of Planners at Greenbelt, Md. (one of the pioneering planned communities in the early thirties).

It might be of interest to follow up the Chatham Village story with one about the Greenbelt towns and to discuss why more such planned towns have not been developed in recent years.

I. JACK GURAL, *architect*
President, Washington Chapter
American Institute of Planners
Silver Spring, Md.

SHOPPING CENTERS

Forum:

I was very anxious to read your story, "What next in shopping centers?" (FORUM, Apr. '60). It is extremely interesting, and I plan to pass it around the office for the edification of our real estate and store people.

FREDERICK C. PECK
Vice chairman of board
Peck & Peck
New York City

DETROIT SUCCESS

Forum:

I congratulate you on the fine job you did in handling the Lafayette Park story in your May issue. The article treats fairly both the successes and the problems.

The photographic treatment of the project was, similarly, excellent.

CHARLES A. BLESSING
Director of City Planning
Detroit

■ *This month—on page* 108—FORUM takes *a critical look at Lafayette Park's unusual parking facilities.*—ED.

A MATTER OF COST

Forum:

I compliment you on your very concise and comprehensive treatment of air conditioning in sealed buildings (FORUM, Apr. '60).

However, you indicated that radiant-panel heating and cooling is less capable than an induction system to cope with wide fluctuations of heat gain and loss caused by large glass façades. You also mentioned that such a system cannot be imposed upon any exterior design; that if a radiant system is to be effective, the building's design must match with the system's capabilities.

What may have been implied, but was

continued on page 200

not explicitly stated, is that these difficulties are easily overcome mechanically and that the only question is one of cost.

J. K. JUSTIN
Johns-Manville Sales Corp.
New York City

PRINCETON BUILDING

Forum:

I have noticed your recent interest in the architectural situation at Princeton (FORUM, Feb., March, and May '60), and so I'm sending you a copy of a letter which I wrote to the *Princeton Alumni Weekly*.

"The resignation of Enrico Peressutti and the unflattering editorial in the March FORUM seems to be a rather strong hint that Princeton take its architectural responsibilities more seriously. Certainly this responsibility is recognized at most of the other leading universities, such as Harvard and M.I.T. Yale, to use a particularly outstanding and rather forceful example, not only has buildings by such eminent modern architects as Kahn, Saarinen, and Rudolph, but also has given the chairman of its architecture department (Paul Rudolph) the responsibility for the design of the future arts building. In Princeton's vast $30 million building program, its department of architecture was not even consulted, according to Peressutti. Does—or will—Princeton have any significant modern architecture worth even mentioning in architectural circles? Or is all its architecture to be "terribly adequate"? If a university will not publicly sponsor progressive and imaginative architectural creations, who will? And, far more important, how can it teach the subject to its students? I can only echo the title of the FORUM's editorial: 'Poor Princeton.'"

JOHN H. BROOKS, III
New Haven, Conn.

■ *Those who have been lamenting the architectural fate of Princeton can take cheer in the design for its new building for the school of architecture, released last month* (*see page* 49).—ED.

RETURN OF ROMANCE

Forum:

"The Romantic Necessity," by Professor Hudnut in the December 1959 issue, seems to be largely concerned with the need for symbolism and its function of bringing romance back into architecture.

Symbolism in architecture has always been associated with the purposes for which people use the structure, and no amount of writing can metamorphose a completed, functionally banal structure into a work of art. There are, of course, psychosomatic reactions to any intensely active perceptual experience. The soaring lines of an RCA building force us to raise our eyes up, up past the cells wherein are hatched payola, payoff, and patronage; up to where and what purpose? Does the massaging effect on our muscles meet the demands of the "romantic necessity"?

MILTON D. LOWENSTEIN
Assistant professor
School of Architecture
Arizona State University
Tempe

FOOLISH OWNERS

Forum:

I congratulate you on raising the question "To rent or to own?" (FORUM, March '60). It should give those occupying large buildings something to think about.

I would only adjust your figures for an average vacancy of 10 per cent of the space rented to the public. It would be rather foolish for the owner-occupant of a building not to allow additional space for his own expansion. This additional space would, of course, have to be rented to the public in a competitive market. If the building is outside the city's core area, the rental of the excess space would be extremely hazardous over a long period of time due to changing transportation and traffic patterns to accommodate changing growth trends in the metropolitan area.

STERLING BIGLER, *building manager*
Girard Trust Building
Philadelphia

Forum:

Large cash reserves not reasonably attributable to future capital improvements or anticipated business risks are ordinarily not accumulated by corporations due to certain regulations in current income-tax laws, and therefore even the large corporations most often resist conversion of liquid reserves into fixed assets such as land and buildings. The exceptions to this rule are the certain mutual corporations where income-tax regulations encourage the conversion of surplus assets to the ownership of land and buildings for business purposes. Examples of this are the savings and loan associations and many of the life insurance companies.

LLOYD D. HANFORD SR., *realtor*
San Francisco

FOOTPRINTS

Forum:

I read your interesting commentary on my "Building Footprints," the series of equal-scale plans of famous buildings published by the students of the School of Design in Raleigh, N.C. (FORUM, March '60).

The drawings shown are not, however, the work of the students at Raleigh; some were drawn by me; others by students at Tulane and the School of Architecture of Tucuman, Argentina.

The final book, which will be published by the University of Buenos Aires, will have more plans, more text, and a bigger size than the preview published in Raleigh.

EDUARDO SACRISTE, *architect*
Buenos Aires

ERRATUM

FORUM *regrets that in its description of Montreal's Place des Arts (Jan. '60—photo, below) credit for the design of the Great Hall was not given to Architects Affleck, Desbarats, Dimakopoulos, Lebensold, Michaud, Sise. The architects are also responsible for the proposal for development of the entire block, except for the design of the commercial strip along St. Catherine St.*—ED.



ARCHITECTURAL FORUM is published monthly by TIME INC., Time & Life Building, Rockefeller Center, New York 20, N. Y.

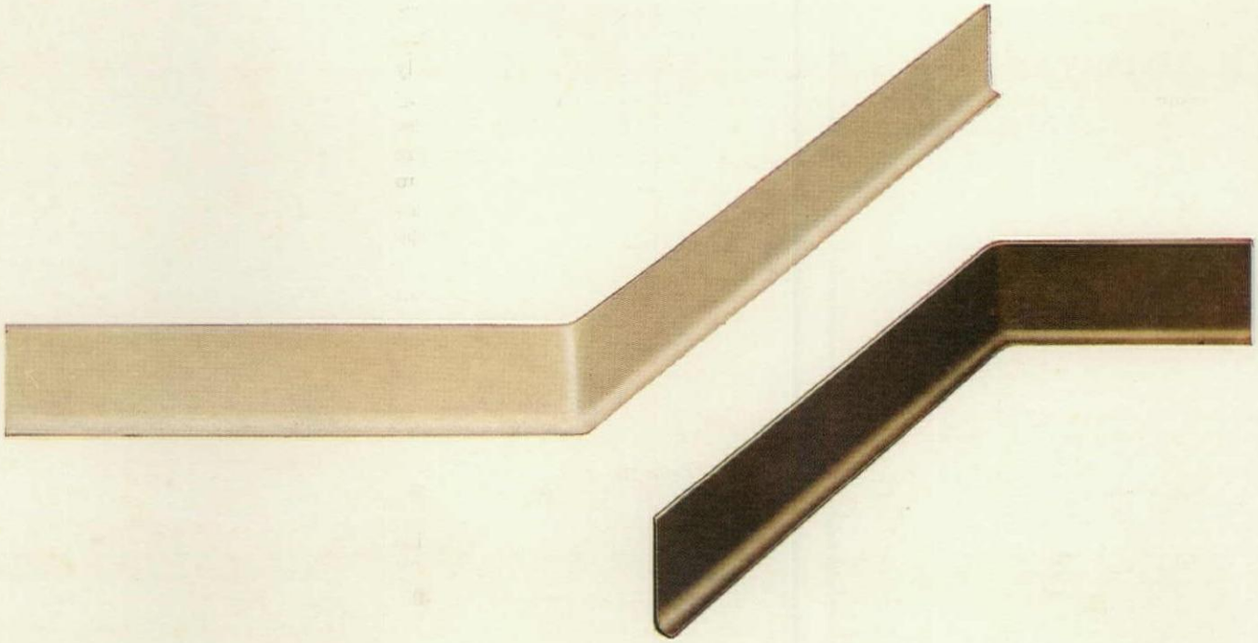
SUBSCRIPTION SERVICE: Address all subscriptions and correspondence concerning them to: ARCHITECTURAL FORUM Subscription Dept., 540 N. Michigan Ave., Chicago 11, Ill. Subscription rates: in U.S., U.S. Possessions and Canada, one year $6.50; elsewhere, one year $10. Single copies, if available, $1.

CHANGE OF ADDRESS: Four weeks is required for change of address. When ordering a change please name magazine and furnish a label from a recent wrapper. If no label is available please state as exactly as possible the address to which magazine has been sent. Changes cannot be made without old as well as new address.

EDITORIAL CORRESPONDENCE should be addressed to ARCHITECTURAL FORUM, Time & Life Building, Rockefeller Center, New York 20, N. Y. FORUM will not be responsible for unsolicited manuscripts or illustrations submitted, and it will not return such material unless accompanied by postage.

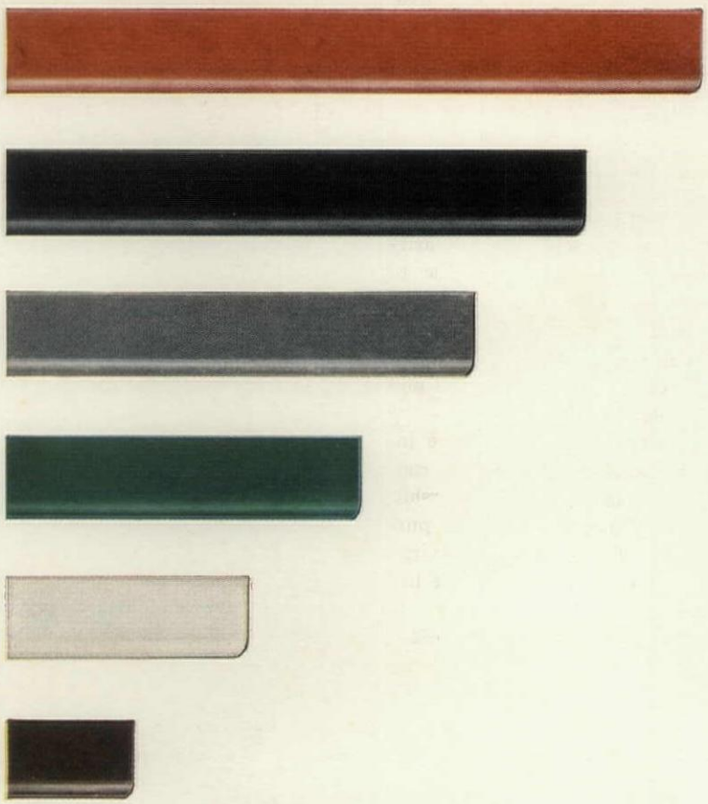
ADVERTISING CORRESPONDENCE should be addressed to the advertising director, ARCHITECTURAL FORUM, Time & Life Building, Rockefeller Center, New York 20, N. Y.

TIME INC. also publishes TIME, LIFE, FORTUNE, SPORTS ILLUSTRATED, and HOUSE & HOME. Chairman of the Board, Andrew Heiskell; Chairman, Executive Committee, Roy E. Larsen; Chairman, Finance Committee, Charles L. Stillman; President, James A. Linen; Executive Vice President and Treasurer, D. W. Brumbaugh; Senior Vice President, Howard Black; Vice President and Secretary, Bernard Barnes; Vice Presidents, Edgar R. Baker, Clay Buckhout, Arnold W. Carlson, Allen Grover, C. D. Jackson, J. Edward King, Arthur R. Murphy, Ralph D. Paine, Jr., P. I. Prentice, Weston C. Pullen, Jr., Comptroller and Assistant Secretary, John F. Harvey; Assistant Treasurer, W. G. Davis; Assistant Comptroller and Assistant Secretary, Charles L. Gleason, Jr.



KENCOVE VINYL WALL BASE

ANOTHER DISTINCTIVE PRODUCT FROM



KENTILE FLOORS

KenCove® Vinyl Wall Base provides the perfect finishing touch to any room. Because corners can easily be formed right on the job, installations are quicker, more economical. (Factory-molded corners also available.) And, for flush-to-wall door buck installations, special KenCove pieces are provided with smoothly tapered ends. For information, see Sweet's File, or call your Kentile Representative for samples.*

*In New York, visit the Kentile® Floors Showroom, Suite 3119 (31st Floor), Empire State Building, 350 Fifth Avenue.

SPECIFICATIONS

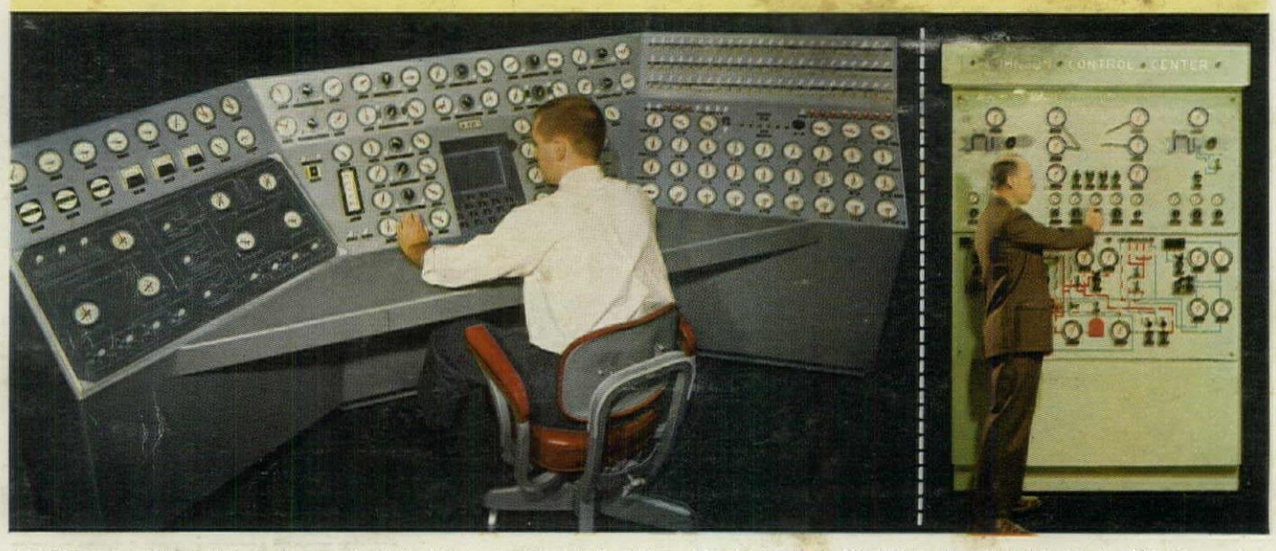
SIZES: 2½″ height in 48″ lengths, 96-foot rolls; 4″ height in 48″ lengths, 96-foot rolls; 6″ height in 48″ lengths only.

COLORS: (as illustrated above, top to bottom) Beige, Brown, Sumac Red, Black, Gray, Green, White and Russet. (White and Beige not available in 6″ height or 96-foot rolls.)

Kentile, Inc., Brooklyn 15, N. Y.

Johnson Temperature & Air-Conditioning Control Sets the Pace...

PUT THE ACCENT ON EFFICIENCY!



At left is a console-type Johnson Pneumatic Control Center installed in the National Bank of Detroit. Albert Kahn Associated Architects & Engineers, Inc. Panel at right is installed in the First Presbyterian Church, Elkhart, Indiana. Wiley & Miller, architects; Bevington, Taggart & Fowler, mechanical engineers.

JOHNSON PNEUMATIC CONTROL CENTERS provide the convenience and economy of centralized supervision and control of air conditioning at a lifetime cost unmatched by other types of control. *The instrumentation is as simple, trouble-free, and dependable as the pneumatic controls used elsewhere in a building!* And exclusive operational features compound the savings! Each panel is custom planned to meet the specialized needs of the individual building. Ask your local Johnson representative to explain in detail how Johnson Pneumatic Control Centers can add to the efficiency of your clients' buildings. Johnson Service Company, Milwaukee 1, Wisconsin. 105 Direct Branch Offices.

JOHNSON CONTROL

PNEUMATIC SYSTEMS

DESIGN • MANUFACTURE • INSTALLATION • SINCE 1885

TEMPERATURE & AIR-CONDITIONING CONTROL SYSTEMS FOR COMMERCIAL, INDUSTRIAL & PUBLIC BUILDINGS – AND SHIPS